Minerals Yearbook
1966

Volume I–II

METALS, MINERALS, AND FUELS

U.S. DEPARTMENT OF THE INTERIOR
March 3, 1849

Prepared by staff of the
BUREAU OF MINES

UNITED STATES DEPARTMENT OF THE INTERIOR • Stewart L. Udall, Secretary

BUREAU OF MINES • Walter R. Hibbard, Jr., Director

Created in 1849, the Department of the Interior—America's Department of Natural Resources—is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

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Foreword

In this edition of the Minerals Yearbook, covering calendar year 1966, *Volume I, Metals and Minerals,* and *Volume II, Mineral Fuels,* formerly published separately, are combined and issued as *Volume I–II, Metals, Minerals, and Fuels*. This volume contains all the customary statistical data on production, consumption, imports, exports, and related subjects, collected by the Bureau from sources all over the world. In addition, it includes a chapter reviewing the mineral industries, a statistical summary, and a chapter on technologic trends. The "Review of the Minerals Industries" chapter in this volume has been expanded and discusses the position of these basic industries in the national and international economies, as well as containing brief commodity highlights.

Volume III, Area Reports: Domestic, follows the format of previous years and contains chapters covering each of the 50 States, the U.S. island possessions in the Pacific Ocean and the Caribbean Sea, the Commonwealth of Puerto Rico, and the Canal Zone. This volume also has a statistical summary chapter, identical with that in Volume I, and a chapter on employment and injuries.

Volume IV, Area Reports: International, will not be published for 1966. However, mineral production and trade tables for foreign countries are included in the combined Volume I–II.

These changes in content and format were made to expedite publication and are part of an effort by the Bureau to discharge as effectively as possible its obligation to compile information on mineral resources and to make it available to the public both promptly and in appropriate form. To this end we can be aided by constructive comments and suggestions of Yearbook users, and such comment is particularly invited.

WALTER R. HIBBARD, JR., *Director*

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Acknowledgments

This volume of the Minerals Yearbook was prepared by the staffs of the Division of Anthracite, Division of Bituminous Coal, Division of Economic Analysis, Division of International Activities, Division of Minerals, Division of Petroleum, Division of Statistics, Division of Accident Prevention and Health, and Assistant Director—Helium. The data upon which the volume was based were reviewed by the staff of the Division of Minerals Yearbook to insure statistical consistency between this volume and Volume III, and between this volume and those for former years.

Figures in the Minerals Yearbook are based largely upon information supplied by mineral producers, processors, and users, and acknowledgment is hereby made of this indispensable cooperation given by industry. Information obtained from individuals through confidential surveys has been grouped to provide statistical aggregates. Data on individual producers are presented only if available from published or other nonconfidential sources, or when permission of the individuals concerned has been granted. Tables on U.S. foreign trade were compiled from Bureau of the Census data. World production and foreign country trade tables were compiled from many sources including data from the Foreign Service, U.S. Department of State. Acknowledgment is also made of the splendid cooperation of the business press, trade associations, scientific journals, international organizations, and other Federal agencies that supplied information.

The Bureau of Mines has been assisted in collecting mine-production data and the supporting information appearing in the Minerals Yearbook by more than 45 cooperating State agencies. These organizations are listed in the acknowledgment section of Volume III.

ALBERT E. SCHRECK,
Chief, Division of Minerals Yearbook

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Review of the Mineral Industries

By Warren E. Morrison [1]

The continuing high-level performance of the domestic mineral and mineral fuels industries during 1966 was sustained by the longest business upturn in the Nation's history. Spurred by consumer demand at home and the defense production requirements of the Viet-Nam war, the rising trend of economic activity during the year was reflected in the upward movements of the major economic indicators. At yearend the gross national product (GNP), representing the value of all goods and services produced, stood at $740 billion, $58 billion greater than in 1965. Corrected for price changes, the real value of GNP in terms of 1958 dollars was $648 billion and represented an annual increase in economic activity of 5.4 percent. Some 74 million persons were employed during the year out of a total population of 196.8 million, while unemployment fell below 4 percent. The Federal Reserve Index of Industrial Production averaged 156 for 1966, up 13 points from the previous year. However a jarring note in the 1966 expansion, and one which affected the mineral industries in particular, was the increasing pressure on prices and the threat of inflation. From 1961–65 economic growth was facilitated by relatively stable wages and prices and only mild inflation. During the period average wholesale prices hardly moved while average consumer prices rose only about 1 percent per year. But this long run of relative price stability ended during 1966 when consumer prices rose 2.9 percent and wholesale prices were up 3.2 percent from the previous year.

Under the combined stimuli of rising consumer demand and defense production, the United States remained the world's major producer and consumer of most minerals and mineral fuels in 1966. Although dependent on imports of certain ores, metals, and fossil fuels to supplement indigenous supplies, the bulk of the requirements for minerals and mineral fuels were produced by domestic industries. These industries are among the most advanced in the world in technology and efficiency of operation, however the combination of high wage scales and depletion of high-grade domestic reserves of some minerals, is making the United States a high cost mining economy. In this context a number of domestic mining industries experienced difficulty during 1966 in competing with cheaper foreign sources of supply for some resources. Nevertheless, stimulated by the continued growth of the economy, most of the industries engaged in producing primary minerals and fuels reported increased outputs for the year. In the face of competition from abroad, productivity in a number of industries is being sustained by evolving technology made possible by research and development programs, and in some cases by the existence of favorable quotas, tariffs and import controls. To meet rising demand in 1966 a number of industries increased their productive capacities or modernized existing capacity. Financing of expansion and improvements was in most cases met from within the industries themselves.

Total value of primary minerals and mineral fuels produced in 1966 was $22.9 billion. Of this total 66 percent was mineral fuels, 23 percent nonmetals, and 11 percent metals. Total value of imports of primary minerals and fuels in 1966 represented 13 percent of the total value of domestic production of these resources. Value of imports exceeded the value of exports by a ratio of more than three to one creating a debit item in the balance of payments. In addition to the foreign trade in crude forms quantities of semiprocessed and manufactured minerals, mineral fuels, and mineral products were imported in 1966.

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[1] Economist, Division of Economic Analysis.

With imports supplementing domestic supplies in some cases, indigenous production of minerals and fuels met the absolute level of demand in 1966. However this was not without strain in some industries which were forced to produce at greater than rated capacity to meet rising demand. In other cases expansion of capacity was necessary, and where requirements could not be met from domestic supply, increased imports were required. These strains on supply and productive capacities increased pressures on prices for some of the scarcer materials.

Federal Government activities with respect to shortrun minerals and mineral fuels supply and demand in 1966 were concerned mainly with the maintenance of price and wage structures at levels commensurate with productivity in these industries. The Government objectives were to curtail inflationary tendencies in the economy, and at the same time assure necessary supplies of essential and strategic resources to meet the needs of the expanding economy including increasing defense requirements of the Viet-Nam war. Principal actions taken by the Government in the pursuit of these objectives during the year were the persuasive efforts under the guidepost program to induce key industries to voluntarily refrain from excessive price increases by keeping their price shifts in line with productivity advances. The Government also continued to use the national stockpile of strategic materials to supplement supplies of scarce materials, including metals and nonmetals, as well as stabilize prices. These efforts met with mixed success in 1966. Guidepost analysis and early efforts to persuade industries from implementing price hikes considered excessive, and selective stockpile sales during the year, were credited with maintaining price stability in a number of key industries and avoiding excessive inflation. Major stockpile items sold during the year were copper, aluminum, platinum, nickel, rubber, tin, and zinc.

Some long-term problem areas with respect to minerals and fuels that concerned both the Government and the private sector in 1966, were the maintenance of environmental quality by reducing pollution, and the assurance of adequate low cost domestic supplies of resources to meet the Nation's anticipated needs in the years ahead. In his January 1967 message to Congress on the subject of Protecting our Natural Heritage, President Johnson stressed the need to move forward in the attack against pollution. He recommended the passage of the Air Quality Act of 1967 and the setting of controls for industries that contribute to air pollution. In regard to the provision of resources to meet future needs, the President called for studies and analyses that will examine the Nation's future mineral and mineral fuels resources needs and production potential.

Since many of the causes of pollution are attributed to fossil fuels, problems in this area are of particular concern to the Department of the Interior, and the Bureau of Mines. These agencies are also most directly concerned with future supply and demand contingencies with respect to minerals and fossil fuels. In this context, major thrusts of the Bureau of Mines programs during 1966 were directed toward problems involving pollution and the provision of future requirements of minerals and mineral fuels at present costs or lower within standards that will preserve environmental quality. Among the alternatives implicit in ongoing and comtemplated Bureau programs for meeting these objectives are the advancement of technology that will provide for the Nation's future needs for minerals and fossil fuels through the provision of economic supplies of conventional resources, or provide economic substitutes or synthetics which will supplement conventional resources which may become high cost or in short supply.

INDUSTRY HIGHLIGHTS

Mineral Fuels.—The bituminous coal industry experienced another good year in 1966, as domestic production reached 534 million tons, 4.3 percent greater than in 1965. Production of Pennsylvania anthracite, however, continued in its downward trend with only 13 million tons produced. The electric utility industry remained coal's biggest customer consuming some 266 million tons, mainly bituminous. Utility use accounted for 53.5 percent of total national coal consumption in 1966. Although nuclear power generation was only a minute portion of total electricity generation, the large number of new contracts granted for nuclear powerplants during the year made the coal industry increasingly aware of the potential competition from the atom in its principal market. This threat was emphasized by the decision of the Tennessee Valley Authority, one of coal's biggest customers, to go nuclear at two plants with a total capacity of 2.2 million kilowatts, at Browns Ferry, Ala. Nevertheless, coal continued to hold its own in terms of new conventional steam plant orders. It is the conjecture of a number of industry sources that if present rising trends of demand for energy and utility electricity are maintained, the demand for coal for utility generation should continue to rise through the 1980's and perhaps beyond, despite the nuclear advances projected for the next several decades. Coal consumption also increased in other sectors in 1966. The general industrial market continued to show a small but steady rate of growth, including demand for coking coal. Exports were also slightly higher than in 1965. In addition to the threat of nuclear competition in the electricity market, other areas of concern for coal in 1966 were the establishment of pollution controls in some areas, and the increasing problems of reclamation of surfaced-mined land. During the year the New York City Council adopted a new air pollution control law which will progressively reduce the permissible level of sulfur content by weight of coal and oil from 2.8 percent to 1 percent over the next 5 years. The Department of Health, Education and Welfare in 1966 issued more stringent air pollution control regulations setting limitations on the sulfur content of fuels burned in Federal installations. In October 1966, Congress enacted an amendment to the Clean Air Act which authorized a major increase in Federal grants-in-aid for State and local air pollution programs. In its endeavors to find solutions for these and other problem areas the coal industry intensified its research and development activities in such areas as the determination of economic methods of eliminating sulfur oxides in coal burning through devices which will remove oxides from flue gases, or the removal of pyritic sulfur from coal before it is burned. The industry during 1966 encouraged voluntary programs on the part of coal producers to reclaim surfaced-mined land. With an eye to potential new uses and markets for coal, the industry continued to sponsor research on coal liquefaction and gasification projects to develop economic means of converting coal to pipeline gas and liquid fuels.

For the coke industry, the year 1966 marked a significant development in coke-oven design. After years of research and development work in the mechanization of certain phases of the coking cycle, improving refractory materials, design of more efficient heating flues, and increasing coke-oven productivity, actual construction of large-capacity ovens started in 1966. At the close of the year there were 358 slot-type ovens under construction of which 253 were large-capacity ovens. These ovens hold about 40 percent more coal per charge than normal-sized conventional ovens and can be operated at much faster coking rates because of improved refractory materials used in their construction. Another significant accomplishment was in the higher quality coke furnished to the ironmakers of the country. For the first time on record, the amount of coke required to make 1 ton of pig iron dropped below 1,300 pounds. This was due in part to the high quality of coke produced, which in turn was dependent on the preparation of the coals before they were charged into the ovens, and also to coke-plant practices employed.

The domestic petroleum industry-crude oil, natural gas liquids, and natural gas—all experienced significant gains in both production and consumption in 1966. The only segments of the industry that failed to expand were exploration and drilling. Demand for all oils, including natural gas liquids, increased 5.0 percent to 4,411 million barrels. Consumption of dry natural gas was up 7.5 percent to 16,759 million cubic feet. The level of imports of refined petroleum products increased 10 percent during the year, due mainly to the relaxation of controls on importation of residual fuel oil to the East Coast; to increased use of bonded jet fuel by airlines engaged in overseas flights; and to increased shipments of gasoline into the West Coast district from Puerto Rico. Import regulations were further amended in 1966 to grant petrochemical plants using petroleum-based feedstocks an import allocation for crude and unfinished oils based on a percentage of their plant output. The year 1966 was also a booming year for refiners with many plants operating at 100 percent of their rated capacities. Expansion of refining capacity was dictated by increased demand as well as by the need of many companies to modernize old plant and equipment. Demand for petrochemical feedstocks for the chemicals industry also continued to rise. The upward trend of demand for these feedstocks, as well as for gasoline and jet fuel, increased the need for hydrocracking. Capital expenditures were up in almost all sectors of the industry, except exploration and development. During the year 3,000 miles of product pipelines were under construction, along with 1,600 miles of natural gas transmission lines. The number of producing oil wells totaled 571,000 at the end of the year, while the number of producing gas and gas condensate wells totaled 124,000. Proved reserves of oil and gas did not increase significantly. New reserves proved during the year only approximately offset yearly production. The continuing low level of drilling activity was mainly responsible for the stabilization of the reserve production relationship in 1966.

The Bureau of Mines helium plants at Keyes, Okla., Amarillo and Exell, Tex., and Shiprock, N. Mex., produced 720.0 million cubic feet of Grade A helium in fiscal year 1967, as compared with the 782.8 million cubic feet produced in fiscal year 1966. Additionally, the Bureau plant at Otis, Kans., produced 36.3 million cubic feet of crude helium. The Otis plant is operated as part of the long-range helium conservation program. Helium sales were somewhat below the record established in fiscal year 1966. This decline is the result of the "slowdown" in the national space program resulting from the Apollo disaster and private plant sales. Sales of Grade A helium totaled 719.1 million cubic feet in fiscal year 1967, or 57.0 million cubic feet less than the fiscal year 1966 sales of 776.1 million. It should be noted that the three private helium plants, operating entirely independently of the Government's helium program, produced and presumably sold 203.0 million cubic feet of helium during the year. Thus, total consumption (use) of helium was 922.1 million cubic feet. Operation of the acquisition and storage (conservation) portion of the helium program proceeded as planned. The five privately owned and operated plants delivered 3,582 million cubic feet of crude helium to the Bureau fo Mines, for which the Bureau paid a total of $41.3 million. At the end of the year, 14,500 million cubic feet of helium had been placed in underground storage since the beginning of the conservation program. Nine wells were drilled in the Cliffside field to provide additional injection and production capacity, to define the limits of the field, and to begin development of the Tuck-Trigg Dome area of the field. The Tuck-Trigg Dome may, in the future, be used to provide additional storage for conservation helium.

Metals.—Primary aluminum production in 1966 increased 8 percent to 2.97 million tons. Domestic aluminum productive capacity increased 12 percent to 3.18 million tons. Additional productive capacity of 329,000 tons was under construction and upon completion will raise the 1966 capacity by 11 percent. Aluminum recovered from scrap increased 8 percent during the year. A wildcat strike resulted in a 12-day work stoppage at the Ormet Corp.'s Hannibal, Ohio aluminum reduction plant. An additional 2 weeks time was lost because the frozen electrolyte had to be chipped from the pots before production could be resumed. Production loss due to the strike was 15,000 to 20,000 tons of aluminum. Domestic production of bauxite ore in the United States increased more than 8 percent in 1966 and was equivalent to 13 percent of domestic consumption. A record 6.2 million tons of alumina and aluminum oxide was produced from bauxite. Aluminum production used 86 percent of the bauxite consumed. Public Law 89–394, dated April 14, 1966, provided for disposal of 126,300 long tons of calcined refractory grade bauxite from the national stockpile. Imports of alumina into the country increased 116 percent to 436,000 tons, while imports of bauxite increased only 2.7 percent. The aluminum content of alumina and bauxite imports increased 7 percent. World production of bauxite achieved a new high of 46.3 million tons, 9 percent greater than 1965. Large increases in bauxite production in the Republic of Guinea and in Australia reduced the Western Hemisphere proportion of total world output to 48 percent. Jamaica was the world's leading producer followed by Surinam, but Guyana was replaced by the Republic of Guinea as the third largest producer. Production of aluminum in Surinam by Suralco, which began in 1965, reached 28,330 tons in 1966. This was about half of the reported capacity of 58,000 tons.

Production of domestic beryl in 1966 was the largest since 1962 with output of 124 tons in Pennington County, S. Dak., representing the largest share. Although beryl consumption increased, no new large use for the metal was reported. Government yearend stocks of beryl, beryllium-copper master alloy, and beryllium metal were practically the same as in 1965.

The domestic cadmium industry experienced an exceptionally active year in 1966 including a record high apparent consumption. Prices also increased in November as a result of increased demand. Providing the required supply for the large consumption necessitated a drawdown of industrial stocks, increased metal output, record high metal imports, and sales of cadmium from the Government stockpile. Stockpile sales of cadmium were against the quantity authorized for disposal by 1964 legislation. The 1966 sales were largely in November and December, and a substantial quantity remained unsold at yearend. Foreign trade in cadmium metal during the fourth quarter changed from the abnormally high imports of the previous two quarters to a rate which approximated the 1965 last quarter imports.

Uncertainty of supply of metallurgical grade chromite in 1966 caused the domestic ferrochromium industry to turn to Government stockpile offerings and to signed contracts for delivery of chromite over a six year period. Under terms of the stockpile disposal plan, the disposal rate cannot exceed 200,000 tons per year. Strong demand for chromium alloys, particularly in the stainless steel industry, together with reduced output by a major producer, resulted in the largest quantity of imports of chromium alloys since 1959. Work stoppages extended 5 to 7½ months at individual Union Carbide Corp. chromium alloy plants, although some production was maintained by supervisory personnel during negotiations. Abroad, the yearlong political differences between Southern Rhodesia and the United Kingdom brought mandatory economic sanctions against Rhodesia by the United Nations Security Council late in the year, as voluntary sanctions requested by the British Government in January proved ineffective. The resolution passed by the United Nations prohibited member nations from purchasing chromite along with 11 other export commodities. The President of the United States signed an Executive Order on January 5, 1967 implementing the Security Council's resolution.

Both domestic and world cobalt consumption were at record levels in 1966. The Government of the Congo (Kinshasa) announced its intention to appropriate all Congo assets of Union Minière du Haut Katanga. In 1966 about 62 percent of free world production came from this company's operations alone. At the end of the year, U.S. Government stockpiles contained over 101 million pounds of cobalt of which 59 million pounds was surplus to the objective.

Domestic consumption of columbium in ferrocolumbium, its principal use, increased 22 percent during 1966 to a record high. The use of tantalum, primarily in capacitors and other electronic applications, increases significantly in response to military needs developed by the Viet-Nam conflict. About 3 million pounds of combined pentoxides ($Cb_20_5 + Ta_20_5$) containing some 1.6 million pounds of Cb was released from Government stocks during the year and by yearend the columbium supply was essentially balanced while tantalum remained in continued short supply. Although no domestic columbium-tantalum concentrate entered the market during 1966, except for the domestic material released from the Government stockpile, domestic mine production was reported for the first time since 1959. This material, mined by two producers in South Dakota, remained in mine stocks at yearend. In response to high demands for columbium and tantalum in high-temperature nuclear and aerospace applications, free world production rose 86 percent in 1966 to a record high of 27 million pounds of concentrate. U.S. imports of mineral concentrates from foreign sources reached alltime highs as increasing quantities were required to meet domestic demand and alleviate a tight supply situation.

Domestic production and consumption of copper in 1966 reached new highs. The rising demand encouraged expansion of existing copper producing facilities, substantial investments in new mines and plants, and continued exploration for new reserves. Mine and mill capacity in the United States increased by about 200,000 tons during the year, and an additional increase of more than 500,000 tons per year was scheduled over the next 5 years. This represents almost one-third of the increase in free world production expected by 1971. Growing sophistication of copper technology and additions to copper production capacity during 1966 provided some compensation for a continuing man power shortage and eased the pressure of increased costs. While U.S. copper production experienced no interruptions during 1966, foreign production suffered some disruptions. An estimated 150,000 tons of copper production was lost by strikes abroad. A significant part of Africa's copper production was lost in a series of political changes and difficulties that involved, at various times, Rhodesia, Zambia, and the Congo. These losses in foreign production added to the pressures from countries other than the United States for a substantial increase in the price of copper. Thus, producers' prices outside the United States ranged from 42 cents early in 1966, to a high of 78 cents and closed the year at 55⅞ cents per pound. London Metal Exchange prices were volatile during the year and climbed above 80 cents per pound briefly in April. In contrast, U.S. producers' prices generally held at 36 cents per pound during the entire year. Although no immediate effect was apparent in either production or price, the acquisition by the Chilean Government of part ownership in Kennecott Corp. mines in Chile during 1966 is expected to have considerable impact on the world industry.

A 6-percent rise in United States gold production to the highest level since 1956 highlighted the domestic industry in 1966. This included a sharp increase in gold output at the Carlin mine in Nevada following its first full year of operation. Domestic consumption of gold in arts and industries increased 15 percent during the year, establishing an alltime record. This was more than three times domestic mine production. The outflow of gold from the United States during the year totaled $571 million, about a third of the $1,665 million loss in 1965. At yearend the total U.S. gold stock was $13,235 million, the lowest level since August 1938. World gold production was up about 1 percent in 1966, the 13th consecutive annual gain and another alltime record. However, the rate of production increase in the Republic of South Africa, which accounts for about two-thirds of the world output, was only 1 percent compared with increases of 5 percent in 1965 and 6 percent in 1964. During 1966 most of the world's newly mined gold went into private holdings for industrial use, investment, or speculation. Virtually no gold went into monetary stocks. The International Gold Pool had to supply gold to meet private demands. Official monetary stocks reported by central banks and governments declined slightly to $43,205 million as no additions appear to have been made.

In the iron ore industry in 1966, pelletized ore was established firmly as the most desired form of furnace feed in the United States. Domestic pellet plant operating capacity increased by about 4.5 million tons to 38 million tons per year. A significant development was the announcement of a direct reduction plant to be installed using the Dwight-Lloyd-McWane (DLM) process on the gulf coast. Iron ore fines would be imported from Brazil and local coal used to produce foundry pig iron. If successful, this would be the first process other than the blast furnace that has been able, under modern technology, to produce pig iron economically and on a commercial scale in this country. Exploration at depth south of the Mesabi range was initiated during the year to delineate the potential taconite deposits for possible future underground exploitation. Diamond drilling was used in exploring part of the Gogebic range in Wisconsin for taconite ore. In its efforts to reduce delivered ore costs, the Pennsylvania Railroad made successful experimental runs of unit trains hauling 300 ore cars containing 30,000 tons of iron ore. The trains moved imported ore from Eastern tidewater to the Allegheny Mountains. World iron ore capacity continued to exceed demand during the year. Increased worldwide availability of high-grade ores caused further reductions in prices of the lower grade high-phosphorous ores. Smaller underground operations around the world found it increasingly difficult to compete and many were closed. The most widely publicized casualty was the 2-million-ton-per-year producer on Bell Island, Newfoundland. Mines operating on the relatively poorer ores of Western Europe continued to be phased out. Among the major iron-ore-producing countries, Australia made the most spectacular advances during 1966 in developing large complete mining and shipping facilities. Australia served notice it could compete in the European market despite the long overseas transportation. Brazil and Canada were other countries unusally active in increasing production, and looking forward to the export of iron ore for a substantial contribution to their economic well-being.

Probably the outstanding technical iron and steel development in the United States in 1966 was the gain in steelmaking capacity at BOF installations. Annual capacity at the end of 1966 totaled 38 million tons, with actual production 34 million tons compared with 23 million tons in 1965 and 300,000 tons in 1955. There seemed to be little doubt that the major share of steelmaking facilities in future planning will involve basic oxygen methods rather than the open hearth furnace. The last new open hearth furnace built in the United States was in 1953. Continuous casting was well advanced from the pilot stage, and at yearend 16 plants had about 15 operating strands, with the number of plants expected to double by the end of 1968. The domestic steel industry planned a total expenditure of $2.2 billion on new plants and facilities for the year. New facilities in the Midwest helped increase the shift of steelmaking capacity westward from the traditional Eastern strongholds of production. Several new steel products were announced on a production scale. These included steel foil of about one-half the thickness previously available, sintered plastic-coated steel strips, low-cost chromium coating to replace tinplate at considerable savings, and improved high-strength steels. Steel capacity increased worldwide and exceeded actual world demand by an estimated 100 million tons. New construction and planning continued at a high level in spite of the fact that oversupply had created problems, particularly in Western Europe and Great Britain. Japan made further inroads on the world market in 1966 and increased its annual capacity to 54 million tons. Additional capacity was being installed or planned throughout the world. Blast furnace capacities in general were being increased as much as twofold over designed capacities by use of better burdens, injected fuels, automation, and increased volume and hearth areas. Construction of blast furnaces with 36-foot hearth diameters were reported underway with daily production of 6,000 tons per furnace predicted.

The record demand for lead in the United States in 1966 induced a significantly higher output of domestically mined lead, a record production from secondary sources, and the highest imports of lead metal since 1958. Supply requirements, however, necessitated supplemental disposals of Government surplus lead to maintain a minimum working level of stocks at primary and consumer plants. Expansion of existing facilities for mining and processing lead ores was a major accomplishment in 1966. The development of new mines, expecially in the Missouri lead belt, was also of particular importance. One new mine and mill progressed toward production in early 1967, and three other mine-mill facilities and two smelters were pointed toward a 1968 production target. Major expansion of lead production in most of the lead producing and processing areas of the world provided an increase in supply commensurate with increase in consumption. Foreign supply, however, was slightly in excess of demand, especially in the European area, where there was a significant downward pressure on price. The resulting pressure from the more favorable domestic market of foreign metal necessitated two reductions in the domestic price of lead during the year, even though domestic stocks were maintained at a level comparable to stocks existing in 1951 during the Korean emergency.

About 44 percent of the world output of primary magnesium was produced in the United States in 1966 compared with 47 percent in 1965. The discontinuation of magnesium production by Pfizer and Co. in June was the principal cause for a 2-percent decrease in domestic production to slightly less than 80,000 tons. The 12-percent increase in shipments was due chiefly to sales to producers from the national stockpile. An expansion program by producers to increase active magnesium capacity to 104,000 tons per year was initiated and planned for completion in 1967.

In the manganese industry in 1966, a drop in consumption of electrolytic manganese metal by the steel industry brought total reported domestic consumption of that item below that of the previous year, although increases were registered for the nonferrous alloy and "other" categories of use. Imports of both ore and ferromanganese, and consumption of the latter, continued at the high levels of the previous year. An additional 1.9 million tons of metallurgical ore was made available for disposal by the Government during the year, and 136,000 tons was sold from its various surplus stocks. Part of this, at least, was consumed during the year. Deliveries of Indian ferromanganese and ore to U.S. ports on the government-to-government barter contract of 1963 were completed by the end of November, although some ferromanganese and electrolytic manganese metal to be made in the United States from this ore remained outstanding at the end of the year. Export duties were imposed by India on manganese ore, effective August 2. For ore containing 10 percent or more manganese, these duties amounted to 20 rupees ($2.60) per metric ton. The first shipment of manganese ore from the Groote Eylandt deposit in northern Australia to the United States was made in March 1966. By June productive capacity at Groote Eylandt was reported to be 200,000 tons per year, about triple that originally planned.

Mine production of mercury in the United States during 1966 rose 12 percent to the highest level since 1962. Consumption of mercury used in making chlorine and caustic soda was up sharply, but overall consumption was slightly lower than in 1965. About 20 percent of the mercury used came from secondary sources and the Government stockpile. Imports were almost double those in 1965. The average price of mercury dropped 23 percent. As the price of mercury fell below $500 per flask, Italian sources announced that no more mercury would be available for sale. About two-thirds of the total mercury imported came from Italy and Spain.

All of the increased domestic production of molybdenum in 1966 came from mines worked chiefly for the molybdenum content. The recovery of byproduct molybdenum from copper mines was about the same as in 1965, although some mines recorded substantially increased production. Domestic end use consumption increased for the eighth successive year as the strong demand for molybdenum products continued. An outstanding technical advancement was achieved as Climax Molybdenum Co. placed into operation a new plant to recover the molybdenum oxide content of selected ores by chemical means. Formerly, the oxide was rejected as tailings from the sulfide flotation process. This new development added many million tons of molybdenum to the resource base. Record molybdenum output by domestic and Canadian producers during the year, plus a 9-million-pound national stockpile release, was sufficient to increase producers and consumers stocks and to balance supply and demand. As the domestic short supply situation eased, exports of molybdenum increased, thereby easing foreign shortages. Canada continued to strengthen its position as the free world's second largest molybdenum producer with additional new production capacity placed on stream in 1966. New mines that were brought into production in 1965 operated at a high production level in 1966.

Nickel producers and users in the United States experienced a difficult year marked by apparent contradictions. While nickel consumption, domestic and worldwide, was at a record level for the third consecutive year, world production was about 40,000 tons below capacity, principally because of strikes at operations in Canada and New Caledonia. Domestic consumers were spared a severe shortage by disposal of about 103,000 tons of surplus U.S. Government stockpile nickel. Stockpile sales, which were made mostly in the first half of the year, enabled many larger consumers to build their stocks to record levels; in the second half of the year other consumers, particularly electroplaters and foundries, were unable to meet their needs with producer-priced nickel and were forced to buy material from merchants at premium prices. By yearend, U.S. consumption of nickel for defense purpose was estimated to be at the yearly rate of 100 million pounds. Because of the defense needs, the Government ordered the three major domestic primary nickel distributors to set aside a certain percentage of their sales for defense-rated orders beginning in August 1966. Free world nickel use exceeded new supply for the fourth consecutive year, and stimulated aggressive expansion programs, particularly in Canada and New Caledonia. Major exploration and development activity continued in Australia, Guatemala, southwest Pacific islands, United States, Dominican Republic, Africa, and South America. Laterite ores continued to receive special attention worldwide. Although only approximately 25 percent of present free world production is from these ores, 30 to 35 percent of new capacity scheduled the next 3 or 4 years is based on laterite type deposits.

Approximately 316,000 troy ounces of surplus platinum metal in the U.S. Government stockpile was released during 1966, enabling sales of platinum-group metals to exceed the 1965 total by more than 40 percent. Even with this sharply increased supply, consumer demand supported a steady trend toward higher prices on the free market.

This strong demand largely the result of normal industrial expansion, was frequently compounded by needs developing from more sophisticated, new or modified industrial processes. Also, the shortage in platinum metals for industrial applications that has persisted for several years, encouraged some accumulation of those metals in anticipation of future needs. Abroad the Rustenburg Platinum Mines Ltd. in the Republic of South Africa announced an increase in mine and mill capacity. Rustenburg supplied almost 600,000 ounces of platinum to world production in 1966, and promised an annual production of 750,000 ounces by 1969. The U.S.S.R. continued to be the major world supplier of platinum group metals.

Because of the continuing demand for rare-earth metals for color television phosphors during 1966, at least five domestic firms shipped high-purity yttrium oxide. Sources were an yttrium-rich concentrate processed from a former General Services Administration (GSA) stockpile and, increasingly, extracts processed as a byproduct of Canadian uranium mill effluents. The simultaneous demand for europium oxide led the largest domestic processor of bastnaesite ore concentrate to quintuple its ore-treating capacity and triple its europium oxide production capacity. Sales of high-purity europium and yttrium oxides were over two-thirds of the total value of rare-earth oxides sold. Phosphatic rocks, already being processed in the U.S.S.R. and Finland for their rare-earth values, were judged to be a potential domestic source of these elements, being particularly enriched in yttrium and some of the heavy rare-earth elements. Depending upon the economics of extraction processes, it appeared that substantial quantities of these valuable elements could be extracted from Florida and Idaho Phosphate operations.

Domestic mine production of silver reached the highest level since 1942 and the United States became the world's leading silver-producing country in the world, exceeding Mexico for the first time in more than 50 years. Industrial consumption continued to expand for the third consecutive year reaching an alltime record. Coinage consumption dropped to one-sixth of the record high of 1965, following passage of the 1965 Coinage Act which changed the composition of subsidiary coinage. The outflow of silver from the Treasury in 1966, reduced the Treasury bullion stock 25 percent to 592 million ounces at yearend. The New York price of silver for prompt delivery remained unchanged at 129.3 cents per ounce, the third consecutive full year of price stability. The continued availability of silver from the Treasury stock was again the principal stabilizing factor in the market. In contrast to the stable New York price for prompt delivery, prices on the Commodity Exchange for future delivery were quoted at substantial premiums. Silver continued to dominate the Government program of financial aid administered by the Office of Minerals Exploration. Fifteen contracts were executed and 29 contracts were active or in force during the year. World silver production dropped slightly, notwithstanding significant gains in the principal North American countries and Australia which failed to offset sharp losses in Peru, Japan, Burma and Yugoslavia. Free world consumption of silver for industrial use increased moderately but coinage consumption dropped sharply from the alltime high of 1965, largely reflecting changes in U.S. demand.

Thorium a byproduct of processing monazite for the rare-earth elements, continued to be in oversupply in the United States during 1966. The use of thorium for nonenergy purposes remained fairly steady with most going into alloys, gas mantles, refractories, chemical processing, and electronic applications. Large-scale nuclear uses must await the development of thorium-fueled breeder reactors. Some experimental models of such reactors were in operation and under construction in 1966. Commercial acceptance of thorium breeders, however, is not anticipated before the late 1980's.

Tin consumption in the United States was up slightly in 1966. Gains were noted in the use of tin in solders, and bronze and brass products, but tinplate consumption declined. The average tin price was the second highest ever recorded. World production increased to the highest level in recent years. Most of the production gain came from expanded mining operations in Thailand where new offshore discoveries and increased smelter capacity were significant developments. In Indonesia the Banka I dredge, the world's largest, began operating in 1966. The New Muntok smelter was also completed during the year.

There was a 60-percent increase in 1966 in the domestic consumption of titanium sponge metal. This was largely due to increased demand for commercial and military air frames and jet engines, and rapidly developing new aircraft programs. In anticipation of a continuing growth in demand, the three titanium sponge metal producers in the United States, including one which began operations in 1966, planned to spend over $100 million to expand sponge production capacity to 30,000 tons per year by 1970, and expand supporting processing facilities as well. Expansion of capacity to produce titanium dioxide pigment from rutile by the chloride process also continued in 1966. One new plant was completed and construction of another was started. Rutile consumption, chiefly for making pigment and metal and in welding rod coatings, was 16 percent higher than in 1965, and the use of ilmenite increased 4 percent. Domestic mine shipments of ilmenite and rutile declined sharply.

The tight domestic tungsten supply situation which had developed in 1965 was eased during 1966. Increased production and imports and stockpile releases made material available to meet a record domestic consumption of almost 18 million pounds during the year. The major factors influencing the tungsten market were the stabilizing effect resulting from the U.S. Government's stockpile sales policy, the continued absence of significant amounts of mainland Chinese tungsten exports to the world market, and the extremely high level of industrial activity in the United States, Europe, and Japan. The foreign price of tungsten concentrate in 1966 was almost five times the 1963 low of $7.75 per short ton. In response to increased demand, the estimated world production increased 3 percent. Several mines which had suspended operations during the preceeding 5 years were reactivated and some new mines were opened.

The future demand for uranium in the United States will be affected by the new orders placed during 1966 for 26 large commercial nuclear electric-power plants, exceeding all previous forecasts. Technologic developments have convinced many utility companies that nuclear power is now competitive with fossil-fuel power in much of the United States and in other parts of the world. Continued accelerating demand is predicated for nuclear-power installations, and the Atomic Energy Commission (AEC) forecasts indicate that domestic nuclear powerplants will have a net electrical generating capacity of between 120,000 and 170,000 megawatts by the end of 1980. The new reactor orders will not, however, immediately affect uranium demand, as it requires from 3 to 6 years after its announcement to complete a reactor. Uranium mill concentrate does not need to be produced until about 1 year ahead of the reactor's startup. Nevertheless, many orders for uranium concentrates were placed in 1966 for future delivery. These contracts assure uranium concentrate sales in most cases beyond the termination date (1970) of present Atomic Energy Commission procurement contracts. Demand through 1971 is not expected to vary greatly over recent years; however, beginning in 1972, demand is expected to accelerate rapidly, reaching an annual requirement of nearly 40,000 tons of uranium oxide (U_30_8) in 1980, or four times the 1966 production. With this concrete evidence that the nuclear-power age had arrived, uranium producers revived an interest in developing new reserves. Exploration for uranium increased in 1966, and announced drilling programs totaled more than double the footage in 1965. Most activity was reported in Wyoming, with Utah, New Mexico, and Arizona following in that order. Claimstaking in some areas showed some of the frenzied activity of the uranium boom of the 1950's. Domestic uranium reserves at the end of 1966 were estimated at 141,000 tons of contained U_30_8 available at $8 per pound and 200,000 tons available at $10 per pound. The AEC 1980 median forecast of 150,000 megawatts of installed nuclear power would require a cumulative total of about 250,000 tons of U_30_8. The potential for developing new reserves is deemed to be good, but exploration and development costs may increase. The main hope for the long-term future of nuclear energy is the development of breeder reactors which will utilize much more of the potential energy of uranium than present reactors do. The commercial development of breeder reactors is not anticipated before 1980.

Vanadium continued to experience strong demand and high production during 1966. Government sales of surplus vanadium pentoxide served to check rising prices and to ease a shortage which might otherwise have been serious both at home and abroad. Active development of important new deposits in Arkansas and in the Republic of South Africa promised relief for the future beginning in 1967–68. The last of the AEC stocks of vanadium pentoxide, 1,971 tons containing 1,104 tons of vanadium, was sold in February by General Services Administration on a competitive bid basis. In May, disposal was authorized of the vanadium surplus in the national stockpile—approximately 6,450 tons contained in vanadium pentoxide. Sales of this material in 1966 were 2,242 tons of contained vanadium. Domestic recovery from all sources in 1966 was the highest on record. Domestic consumption of vanadium contained in ferrovanadium, other alloys, metal, and chemicals continued to increase. With over half of titanium mill production being the Ti–6A1–4V alloy, greatly increased use of titanium for air and space applications resulted in a 70-percent increase for use of vanadium in nonferrous alloys. Demand was strong for vanadium-bearing high-strength low-alloy constructional steels and line pipe.

Record highs for consumption, smelter output, and metal imports characterized the domestic zinc industry in 1966. Ore imports increased substantially while domestic mine production declined. Combined elements of metal supply, including sales of zinc from the Government stockpile, exceeded consumption as evidenced by a moderate increase in industrial stocks. Production of zinc dust and zinc oxide were at record high quantities, and the combined production of zinc pigments and compounds, excluding lithopone, were at the highest level since 1947. The quoted price of Prime Western grade zinc, East St. Louis market, remained stable at 14.5 cents per pound, reflecting the relatively parallel advances between demand and supply.

Nonmetals.—Domestic output, imports, and consumption of barite continued at very high levels during 1966. Crude barite was produced by approximately 50 mining operations in 10 States, and for the first time since 1914 in Alaska.

In 1966, boron minerals and compounds sold or used by producers was the largest reported since 1955. All the production was in California.

In the clay industry in 1966, the continued increase in domestic demand for bentonite, paced by its use in pelletizing pulverent iron ores, resulted in high activity with new domestic production facilities completed or under construction during the year. There was a continuing search throughout the world for clays suitable for pellet binder use. Domestic production capacity for high-grade kaolin for paper coater and filler uses increased as the major producers continued to build new plants and to expand and modernize existing facilities. New heavy clay products and lightweight aggregate plants completed or under construction during the year featured the latest in automated equipment, such as automatic brick setters, single-layer fast firing kilns, and automatic controls for mixing, forming, and firing. Isostatic forming of large diameter clay pipe continued to get serious attention and was expected to be a major production innovation in the clay pipe industry in the next few years.

Domestic production of feldspar during 1966 established records for volume and total value. Chief domestic outlets for ground feldspar were the glass, pottery, and enamel industries. The notable vigor of the container-glass industry, sustanined by growing use of disposable beverage bottles, compensated for less flat-glass demand for construction and automobile manufacture. This also pushed the 1966 domestic use of glass-grade feldspar to the highest point in history.

Domestic fluorspar producers were heartened during 1966 by an increase in the value of imported acid-grade fluorspar. There was an increase from $30.70 to $35.61 per ton for material from Spain and an increase from $25.95 to $28.48 for flourspar from Italy. The overall values per ton of imported metallurgical-grade ore increased from $19.63 to $20.19 during the same period. Mexico continued to be the principal source of supply, and values per ton of imported fluorspar from there remained almost constant. Recovery of calcium fluoride (CaF_2) from phosphate rock was not yet commercially successful in 1966. The product from stack gases was extremely fine and apparently could not be concentrated. It was also too fine and too impure for ready conversion to hydrofluoric acid. Apparently further investigation is needed if this source is to be widely used for other than fluosilicic acid for water fluoridation. The sale form Government stockpiles of acid-grade lump, a type not produced in the United States, was authorized by Public Law 89-416, May 11, 1966. Following passage of the law, 15,182 short tons of acid-grade lump fluorspar all stored at Forth Worth, Tex., was sold to domestic users. The Government was successful in selling 1,835 tons of contaminated acid-grade at Granite City, Ill., but the stocks at the other three depots were unsold at yearend.

Increased domestic requirements for kyanite in high-alumina refractories of the mullite type during the past 5 years, coupled with greater exports strained the productive capacity of the Virginia, South Carolina, and Georgia producers during 1966. At yearend, production facilities were being expanded to meet the growing need for kyanite.

Lithium mineral source-materials output in the United States in 1966 was the largest ever reported. There were new large production of lithium carbonate from brine in Nevada; a drop in the price of lithium carbonate from 48 to 38.5 cents per pound in July; greatly reduced imports of lithium minerals for the second consecutive year; and practically no imports of lithium compounds.

Domestic sheet mica production dropped to a record low of 4,500 pounds in 1966. Despite the rise in cost of imported sheet mica in recent years, domestic producers cannot compete against material coming from India and Brazil.

Anhydrous ammonia output shattered all records in 1966. Ffteen new plants or plant expansions came on stream with a total of almost 3.7 million tons of additional ammonia capacity per year. The U.S. Department of Agriculture reported that 5.3 million tons of nitrogen was consumed in agriculture as fertilizers during the fiscal year ending June 30, 1966, almost 15 percent more than in the previous 12-month period.

New high records were achieved in 1966 in domestic phosphate rock mine production and consumption. The U.S. Department of Agriculture reported that the consumption of available phosphate as fertilizers during fiscal year ending June 30, 1966, totaled 3.9 million short tons compared with 3.5 million tons for 1965.

The demand for potash for fertilizers continued upward during 1966. New high records were established for world production and U.S. marketable production, sales by producers, imports for consumption, and apparent consumption of equivalent potash. Increased imports of potash from the fast-expanding Canadian industry continued to displace domestic potash in the United States. Domestic potash provided 62.8 percent of the U.S. market compared with 67.3 percent in 1965 and over 90 percent in 1960. New Mexico produced 89 percent of the total domestic output of marketable potassium salts, 2 percent less than in 1965.

Sand and gravel production in 1966 was up 3 percent over that of 1965. The number of commercial sand and gravel operations in the country increased. A total of 6,236 plants produced 680 million tons of commercial sand and gravel compared with 5,560 plants that produced 656 million tons in 1965. The number of plants producing less than 50,000 tons increased from 2,910 to 3,514. This was due mostly to less than anticipated demand causing some plants, normally in a larger size category, capacity to operate below normal thereby temporarily dropping to a lower classification.

The 26.7 million tons of iron-blast-furnace slag processed in 1966 was supplemented by 4.6 million tons of open hearth steel slag handled by slag processors. About 94 percent of the blast-furnace slag sold and used and more than 86 percent of the reported steel slags sales went to products used in construction or maintenance of roads, buildings, railroads, or airports, or into construction accessories such as mineral wool. The balance was put to other uses such as glass, sewage trickling filter medium, or agricultural slag.

Stone production in 1966 reached the record level of 813 million tons valued at $1.3 billion. Crushed and broken stone represented 93 percent of the total value and gained 4 percent in tonnage and 5 percent in value compared with 1965 levels. The quantity of dimension stone produced declined 3 percent. Limestone was by far the most widely used rock variety followed by basalt, granite, and sandstone in that order. Concrete aggregate, roadstone, and cement manufacture continued as the main uses for stone, accounting for 76 percent of all tonnage produced in 1966, and 65 percent of total stone value.

Domestic sulfur production and consumption continued to rise in 1966. Production of Frasch sulfur in the United States increased more than in any other year, but this rate of increasing production is not expected to continue unless more new easily minable salt domes are found and brought into production. The percentage of sulfur needed for fertilizers increased from 40 percent in 1964 to almost one-half in 1966. Domestic demand was met by increased production from most sources, reopening mines and building recovery plants, continued withdrawal from producer stocks, increased imports, and decreased exports. This was the fourth consecutive year that demand for sulfur exceeded production and even though new sources of production have been announced in the United States and elsewhere, some of these new sources may be used for captive consumption with only small additional quantities being available on the open market.

Both production and value of talc, soapstone, and pyrophyllite was the highest recorded since 1952. New York, California, and North Carolina, in that order, were the leaders among the 14 producing States, and for the first time in history 5 States had annual outputs of more than 100,000 tons. Most of the ground talc, soapstone, and pyrophyllite was consumed in the manufacture of ceramics, paints, and insecticides.

A new grinding plant in Ghent, Belgium received its first large shipment of crude talc from Montana for use by European paper and ceramics manufactures.

Rapidly increasing population and rising per-capita demand for water continued to aggravate the Nation's and the world's water problems in 1966. Under the impetus of the rapidity with which mankind's need for fresh water is overtaking the total natural supply, seawater desalting projects are being operated, constructed, and planned in dozens of nations around the world. Plans were completed in 1966 for a nuclear-powered plant to be built on an artificial island off the California coast near Los Angeles to provide thermoelectric power simultaneously with a copious daily yield of 150 million gallons of fresh water at an estimated cost of $0.25 per 1,000 gallons. The high-capacity flash distillation plant recently completed at the port and smelter city of Ilo, Peru, went into full-scale operation in 1966 extracting 750,000 gallons of drinkable water from the Pacific every 24 hours.

SUPPLY AND DEMAND

Production.—Domestic production of primary minerals and mineral fuels during 1966, shown in table 1, were valued at $22.9 billion, or $1.4 billion more than in 1965. In terms of 1957–59 constant dollars the real value of primary production, shown in table 2, was $22.3 billion, representing a gain of 5.2 percent from the previous year. The mineral fuels group made the greatest contribution to gross national product and industrial production during the year, accounting for two-thirds of the value of all minerals and mineral fuels produced. The nonmetals group followed with one-fifth and the metals group with 11 percent of the total. The mineral fuels group also ranked first in value of United States foreign mineral trade in 1966, representing 45 percent of the value of imports and 56 percent of the value of mineral exports during the year (table 1).

The rising trends of output of primary minerals and mineral fuels in recent years are indicated in the movements of the Bureau of Mines annual index of physical volume of production, shown in table 3. The minerals and mineral fuels component of this index reached 126.9 in 1966 (1957–59 = 100). The component index for ferrous metals was 119.1, nonferrous metals 129.2, and fuels 123.6. These trends are also reflected in the mining and industrial production components of the Federal Reserve Board (FRB) annual and monthly indexes of industrial production shown in tables 4 and 5. During 1966 the FRB annual index of total industrial production increased 13 points to a new high of 156.3

(1957–59 = 100). The total mining component of the index rose 6 points to 120.3; while the subcomponent for coal, gas and oil was up 5 points to 117.6 and the subcomponent for metal, stone and earth minerals was up 8 points to 133.2. Among the subcomponents of industrial production in 1966, primary metals, and clay, glass, and stone products showed the highest gains during the year (table 4).

Within the mineral fuels group in 1966, the heat or calorific value of total primary production of fossil fuels, shown in table 6, was equivalent to 50,495 trillion British thermal units (Btu). Adding to this the heat value of primary electricity produced at hydropower and nuclear-powered plants during the year brings the total production of mineral fossil fuels and primary electricity in 1966 to the equivalent of 52,603 trillion Btu. This was 6 percent above the 1965 figure and an alltime high. Figure 1 shows historical trends of production for minerals and mineral fuels.

During the year the bulk of the Nation's energy supplies continued to be derived from primary fossil fuels; mainly natural gas, crude petroleum, and coal in order of importance. Together these fossil fuels accounted for 96 percent of total energy production while the balance of supply, about 4 percent, consisted of primary electricity generated at hydropower and nuclear-powered plants. Natural gas and its component liquids were the ranking energy source in 1966, with marketed production of 17,206 billion cubic feet, accounting for 36 percent of total energy produced. Crude petroleum, with 3,028.1 million barrels produced, accounted for 33 percent of total energy output. It is interesting to note with respect to petroleum and natural gas that the dollar value of crude petroleum produced during the year was more than three times the value of wet natural gas produced, whereas the heat value of natural gas produced exceeded that of the crude petroleum produced. Production of bituminous coal and lignite also made significant gains in 1966, with national output rising to 533.9 million short tons, accounting for 27 percent of total energy during the year. Anthracite output continued to decline with only 12.9 million short tons produced.

Among the major nonmetals produced in 1966, cement, stone, and sand and gravel constituted 67.1 percent of the total value of nonmetals production. Cement production increased 1.4 percent to 395.7 million barrels; sand and gravel output was up 2.9 percent to 934.5 million short tons; and stone up 4.2 percent to 813.4 million short tons. In the metals group copper and iron ore accounted for 72.0 percent of the total value of primary metals output. Copper output increased 5.7 percent to 1.4 million short tons, and iron ore, 7.1 percent to 90 million long tons. (Table 2 in the Statistical Summary shows both production and value for mineral fuels and minerals, including metals and nonmetals in 1966).

Consumption.—Demand for mineral fuels, electricity, and major mineral products in 1965 and 1966, together with projections to the year 1980, is shown in table 7. The heat value of consumption of fossil fuels and primary electricity from hydropower and nuclear power is shown in table 8. In 1966, this was equivalent to 56.8 quadrillion Btu. During the historical period 1947–65, the average annual rate of growth of total energy consumption was 2.7 percent. For the next 15 years total energy demand is projected to grow at the rate of 3.2 percent yearly with total consumption in 1980 estimated at 88 quadrillion Btu.

Among the mineral fuels, natural gas remained the ranking energy resource in 1966, with 16,759 billion cubic feet of dry gas consumed, excluding natural gas liquids. This was 7.4 percent greater than gas consumption in 1965. Since 1947 natural gas has had the highest growth rate of all the fossil fuels, averaging 7.3 percent yearly between 1947 and 1965. For the next 15 years, natural gas consumption is projected to increase at a somewhat slower rate than historically, about 2.8 percent per year, with 1980 consumption estimated at 24,594 billion cubic feet.

Petroleum consumption including natural gas liquids reached 4,411 million barrels in 1966, or 209 million barrels more than in 1965. The average growth rate of consumption of petroleum from 1947–65 was 4.3 percent yearly. For the next 15 years, consumption is projected to increase at an average rate of 3.0 percent yearly, with demand in 1980 estimated at 6,665 million barrels.

Bituminous coal consumption increased to 486 million tons in 1966, 27 million tons greater than in 1965, with most of the increase coming from expanded demand at electric utilities. During the period

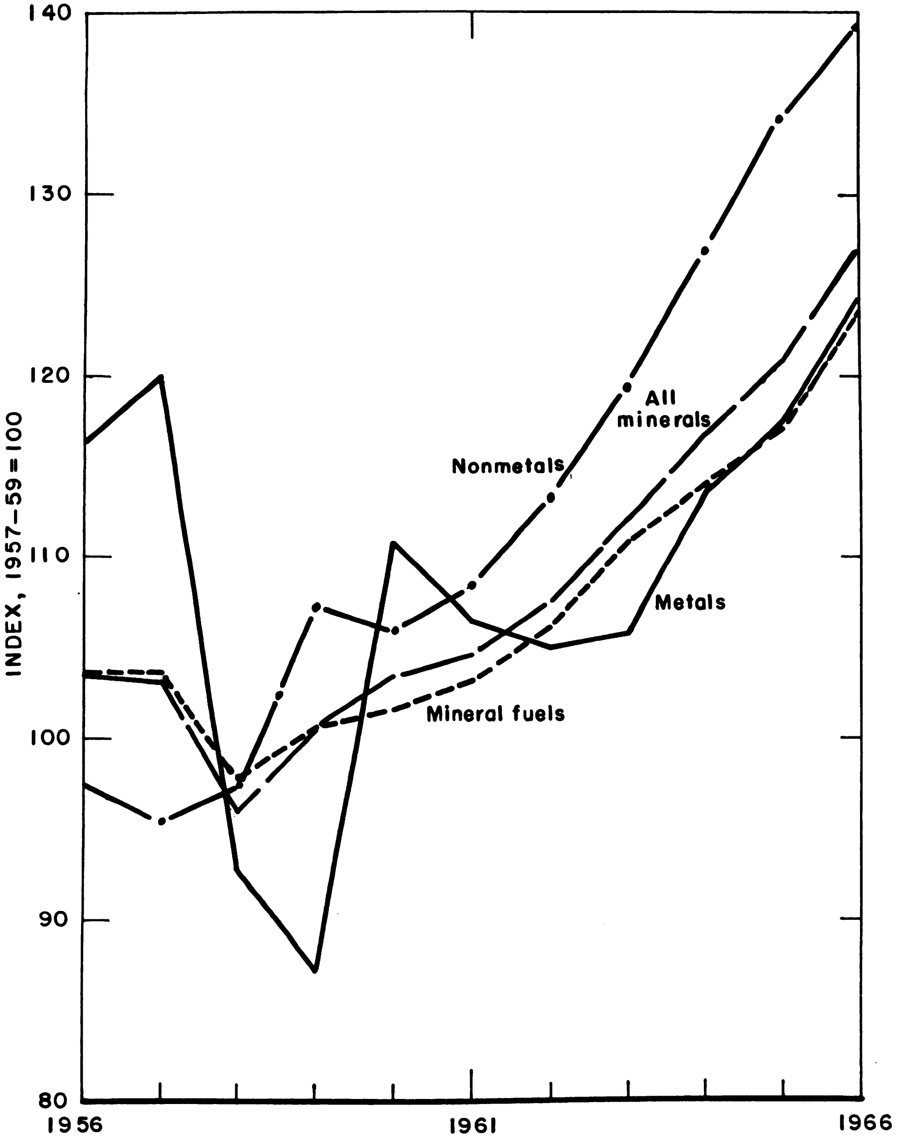

Figure 1.—Indexes of physical volume of mineral production in the United States, by groups.

1947–65, bituminous coal and anthracite lost most of their heating and railroad markets to oil and gas. Although the trend of demand for bituminous coal at powerplants during the historical period was generally upward, total demand for coal declined on the average throughout the period. Since 1961, this declining trend of coal demand has been reversed, largely because of the continued growth of the utility market and the expansion of demand for electricity. During the next decade and a half, bituminous coal consumption is expected to continue to increase, with national consumpion in 1980 projected at a range of 675 to 737 million tons. This range is based on the assumption of a range for nuclear power generating capacity by 1980 of 70,000 to 110,000 megawatts.

Demand for utility electricity in the major energy markets is increasing at a faster rate than direct fossil fuel uses in these markets. From 1947–65, utility generation increased at an average rate of 8.2 percent yearly, mainly at conventional fuel-burning plants with coal as the principal fuel source. Total net generation at electric utilities in 1966 was 1,144 billion kilowatt-hours, 8.4 percent greater than for the previous year. Utility generation is projected to increase at an annual rate of 6.4 percent during the next 15 years, with net generation in 1980 estimated at 2,737 billion kilowatt-hours. Based on the assumed range of 70,000 to 110,000 megawatts of nuclear generating capacity by 1980, nuclear generation in 1980 is estimated at 458 to 723 billion kilowatt-hours.

Among the major mineral products other than fuels consumed in 1966, demand shifts within the ferrous metals group were restricted mainly to slight increases in consumption of iron ore and raw steel, which each rose to 134 million tons during the year. Demand for iron ore and raw steel is expected to increase at an annual rate of about 1.9 percent during the next 15 years, with consumption projected at about 174 million tons for each category in 1980.

Demand for most of the major nonferrous metals also increased in 1966. Aluminum consumption reached 4 million short tons during the year, copper 2.1 million short tons, and uranium (U_30_8) 9,483 short tons. Demand for aluminum in 1980 is projected at 10.4 million short tons, copper at 2.7 million short tons, and uranium at a range of 35,000 to 40,000 short tons depending on the attainment of the projected levels of nuclear generating capacity.

Among the major nonmetals in 1966, cement consumption reached 394 million barrels, or 12 million barrels above 1965. Sand and gravel output was up 26 million short tons to 934 million short tons, while crushed stone reached 811 million short tons. Sulfur production was up 1.2 million long tons to 9.2 million long tons.

Tables 8 and 9 show integrated energy demand balances for mineral fuels, and hydropower and nuclear power, by major sources of energy, and by major energy markets for the years 1962–66. Tables 10–13 show individual supply and demand balances for major fossil fuels for the years 1965 and 1966. In 1966, the household and commercial sector accounted for 22 percent of total energy resources consumed. Energy resources inputs into this sector increased 5.4 percent during the year, including both direct fuels and purchased electricity. Sector inputs of electricity continued to grow at an accelerated pace— 9.3 percent over that of 1965—and the sector absorbed 54 percent of the total generation of utility electricity in 1966. Fossil fuels consumed directly remained the major source of energy in the household and commercial sector, contributing 85 percent of sector inputs in 1966, compared with 15 percent for purchased electricity. However, direct fuels utilized are increasing at a slower rate than electricity. Natural gas and petroleum products, used mainly for space heating, are the principal fossil fuels consumed directly. Although direct coal consumption has declined to the point of insignificance, this is being offset by the rapid growth in sector electricity use, for which coal is the principal fuel source.

The industrial sector remained the major energy market in 1966, accounting for 32 percent of total energy consumption. Sector energy use was 4.7 percent greater than in the previous year. Direct fuels accounted for 87 percent of sector energy resources inputs and purchased electricity for 13 percent. While electricity use is also growing faster than direct fuel uses in this sector, sector demand for both petroleum and natural gas increased in 1966. In the case of gas, demand was mainly for process heating, whereas petroleum uses were for process heat as well as for nonfuel and nonpower uses, principally oil products and natural gas liquids for petrochemical feedstocks. Industrial consumption of coal increased during the year with some gains in coking coal, and in general industrial use including self-generation of electricity.

The transportation sector accounted for 23 percent of total energy consumption in 1966. Sector demand for energy was 5 percent over that of 1965. Relatively little purchased electricity occurs in this sector, and the bulk of demand is met from petroleum products. The sector accounted for over half of the total national consumption of oil products in 1966, with gasoline being the major product consumed.

Although the electric utility sector accounted for only 21 percent of total energy resources inputs in 1966, this was the fastest growing of the four major energy markets. Sector inputs of resources, both fossil fuels and primary electricity, increased 9 percent over that of 1965; fossil fuels consumed at conventional fuelburning plants accounted for 83 percent of sector inputs. The remaining 17 percent represented theoretical inputs (based on coal equivalent of electricity generated) for hydropower and nuclear-powered plants. The bulk of the primary utility electricity generated in 1966 was hydropower, with nuclear plants contributing less than 1 percent of total generation. At conventional fuelburning plants, coal accounted for 63 percent of the total inputs of fossil fuels consumed in 1966. Natural gas accounted for 27 percent of utility inputs, and residual fuel for 10 percent. The increasing demand for utility electricity generated in the utility sector is reflected in the trends of sales to ultimate consumers in the other three energy markets, as shown in table 14. Total sales increased 7.1 percent in 1965, the latest year for which data were available. This included an increase of 7.2 percent in demand by residential consumers, and 7.2 percent by industrial and commercial users.

The lack of detailed data prohibits analysis of consumption of minerals, other than fuels, by primary and secondary products within markets or demand sectors. However, some indication of trends of minerals demand is shown in table 15, which gives net supply of principal minerals and components of gross supply, and in table 16, which shows a 5-year series for 1962-66 on shipments, net new orders and yearend unfilled orders for selected mineral processing industries.

Foreign Trade.—The 1966 value of imports and exports of selected minerals and mineral fuels is shown in table 17. Total value of imports for the year was $6,723.5 million, which represented 29 percent of the value of domestic production for the groups. Total value of exports of minerals and mineral fuels for the year was $3,350.7 million. Value of imports exceeded value of exports by $3,372.8 million, representing an adverse item in the nation's balance of payments. The value of mineral fuels imports during the year was $2,239.1 million which represented 15 percent of the value of domestic production of mineral fuels.

The percentage distribution of exports of selected mineral energy resources and related products in 1966 is shown in table 18. The main direction of the U.S. coal export trade during the year was toward Canada and Western Europe. Petroleum exports, mainly refined products, were directed principally toward Europe, Asia, and other parts of North America.

The percentage distribution of imports of principal minerals and mineral fuels in 1966 is shown in table 19. The origin of crude petroleum and petroleum products imports was mainly South America; Trinidad and Netherlands Antilles (classified in North America); and Asia (Middle East). Imports of natural gas were primarily from Canada in 1966.

Stocks.—Physical stocks of mineral fuels and related products in 1966 are shown in table 20. There were no major shifts in the stock positions of any of the major fossil fuels; during the year such changes as did occurr were generally in the direction of increased stock levels. The principal exception was stocks of bituminous coal which were down about 3 million tons from 1965 levels. Crude petroleum and petroleum product stocks were up 38 million barrels, with the main shifts occurring in crude petroleum, natural gas liquids and gasoline. Stocks of natural gas also increased slightly during the year as more underground storage capacity became available.

Indexes of the 1966 stock positions of mineral manufacturers, consumers, and dealers are shown in table 21; the indexes for curde mineral stocks at mines or in the hands of primary producers are shown in table 22. Seasonally adjusted book values of inventories for selected mineral processing industries in 1966 are shown in table 23.

EMPLOYMENT AND PRODUCTIVITY

Employment in the mineral industries during 1966, shown in table 24, expanded slightly in response to increased production. Employment gains in the metals group were mainly in the copper industry. Small gains in employment were also reported for nonmetal mining and quarrying. In the mineral fuels industries, mining employment again declined in 1966, although production was generally up in most of the groups in these industries. This decline in employment in the face of expanding production reflects continuing mechanization and automation. Employment in the mineral manufacturing industries was generally down in 1966 from the previous year's level. Much of this decline was in the blast furnaces, steel works, and rolling mills industries group. Employment in the mineral fuels manufacturing industries exhibited no significant shifts during 1966. Together the mineral and mineral fuels industries employed 628,100 persons in mining and 908,700 in manufacturing in 1966.

Average hours of work and gross earnings in the mineral and mineral fuels industries in 1966 are shown in table 25. In mining, hourly earnings and weekly hours of work in the metals group and in the nonmetallic mining and quarrying group showed gains that reflected the increased production in these groups. In the mineral fuels group a significant increase occurred in overall hourly earnings in bituminous coal mining, and lesser increases in crude petroleum and natural gas. Average hourly earnings for all mining in 1966 was $2.89, while the average number of hours worked weekly was 44.2. Highest hourly earnings in mining during the year was $3.65 in the bituminous coal industry which also had the highest weekly earnings which averaged $148.45. The coal industry had the lowest weekly average hours of work, 40.3 hours in 1966. In manufacturing, the mineral fuels group had the highest hourly earnings, with $3.60 in petroleum refining. Although the blast furnaces, and steel and rolling mills had hourly earnings of $3.58, they had the lowest average weekly hours worked, 40.7 hours. Average hourly earnings in the mineral and mineral fuels manufacturing industries in 1966 were $3.43, while average weekly earnings were $141.72.

Average labor-turnover rates in selected mineral and mineral fuels industries in 1966 are shown in table 26. The highest average accession rate for the year was in the metal mining group, with 35 per 1,000 employees. This was, however, more than offset by a separation rate in this group of 35 per 1,000 and a layoff of 7 per 1,000. Largest increases in accession rates during the year were in manufacturing, with biggest gains being in the blast furnaces, steel and rolling mills group, 29 per 1,000 employees; and in the nonferrous smelting and refining group, with 32 per 1,000. Separation rates declined only in the blast furnaces, steel and rolling mills group, down to 24 per 1,000; and in coal mining, down to 18 per 1,000 in 1966.

Wages, salaries, and average annual earnings in mining and manufacturing in 1966 are shown in table 27. In manufacturing during the year, wages and salaries totaled $128 billion, compared with less than $5 billion for mining. Average earnings per employee, however, were highest in the mining industries, with $7,136 annually, per full-time employee, compared to an average of $6,647 in manufacturing industries, and an average of $5,954 for all industries in 1966.

The most recent labor-productivity indexes for major minerals and mineral fuels industries, shown in table 28, are for the year 1965. The indexes have in recent years reflected the generally rising trend of output per manhour in these industries due to mechanization and automation. In 1965, however, production per man-hour declined slightly in the copper and crude iron ore groups, although production continued to increase in the bituminous coal and lignite group. Production increased in the petroleum refining sector in 1964, the latest year for which data are available. The decline in copper and iron ore productivity in 1965 may be attributed to increased hiring of new workers whose marginal output is low.

PRICES AND COSTS

Indexes of average and implicit unit value for major minerals and mineral fuels are shown in tables 29 and 30. During 1966 there were no appreciable shifts in the components of these indexes. The general stability or very small upward changes that occurred in some components of these indexes reflected the restraint shown by the mineral and mineral fuels industries during the year in keeping prices down, despite inflationary pressures from the expanding domestic economy and the increasing impact of the Viet-Nam war on domestic supplies.

Price indexes for selected metals, minerals, and mineral fuels are shown in table 31. The most significant increases and decreases in the price indexes within the minerals group in 1966 were in nonferrous scrap which increased 16.0 percent over that of the previous year; nonferrous metals were up 4.9 percent; phosphate rock was up 5.1 percent. On the downward side, iron and steel scrap fell 5.3 percent; lead was down 5.8 percent. Among the mineral fuels, the most significant shifts were in gas fuels which were up 4.2 percent, and petroleum products up 3.8 percent.

Comparative prices for major fuels in 1966 are shown in table 32. Increases in petroleum product prices were largely confined to gasoline which averaged 15.83 cents per gallon. The average price of dry natural gas at the point of consumption was 15.7 cents per 1,000 cubic feet.

The average cost of fossil fuels for steam-electric power generation is shown in table 33. Coal remained the cheapest fossil fuel for power generation in 1965 with an average cost of 24.4 cents per million Btu. This represneted a slight decline from the 1964 cost of 24.6 cents per million Btu. The average value of oil in 1965 was 33.1 cents per million Btu and for natural gas 25.0 cents per million Btu. Coal was the cheaper fuel for power generation in most regions and lowest in the West South Central Region where the average cost in 1965 was 17.7 cents per million Btu.

Cost of electrical energy per kilowatt-hour, shown in table 34, averaged 1.6 cents per kilowatt-hour at the national level in 1965. The region having the lowest cost for power was the East South Central Region, where electrical energy was 0.9 cent per kilowatt-hour. Sectorwise, cost of electrical energy remained lowest in the commercial and industrial markets, where this averaged 1.3 cents per kilowatt-hour, and highest in the residential market where this averaged 2.3 cents per kilowatt-hour.

Indexes of principal metal mining expenses are shown in table 35, while indexes of major input expenses for bituminous coal, and crude petroleum and natural gas mining are shown in table 36. Neither of these indexes exhibited appreciable changes during 1965 and 1966.

The indexes of relative labor costs and productivity in selected mineral and mineral fuels industries, shown in table 37, continued to rise for the most part during 1966. The index of value of product per man-period in the bituminous coal and petroleum groups increased significantly during the year. The indexes of labor costs per dollar of product and per unit of output showed little change in 1966.

Price indexes for selected cost items in mineral and mineral fuels production, given in table 38, showed some upward trend in 1966. The largest gain was in the gas fuels group, which increased 4.2 percent over the 1965 level; and in the petroleum and refined products group, which was up 3.8 percent from that of 1965.

Price indexes for mining construction and material handling machines and equipment, shown in table 39, experienced some rise in 1966. Construction machinery and equipment showed an increase from 115.3 in 1965 to 118.9 in 1966; mining machinery and equipment rose to 116.8, and oilfield machinery and tools rose to 106.2. Specialized construction machinery increased to 114.5 compared with 110.3 in 1965.

INCOME AND INVESTMENT

Income generated by mining in 1966 is compared with that generated by manufacturing and by all industries in table 40. Income in the mining group increased more than 8 percent from the previous year. The highest increase in this group, more than 15 percent, was generated by the metal mining industry. In manufacturing, income increased 11.8 percent in 1966, with the highest increase in the primary metal industries, where it rose 11.1 percent.

Direct private investment of United States companies in foreign petroleum industries in 1966, is compared in table 41, with total investment in all foreign industries. This shows Europe and Canada leading all other areas in end-of-year book value for the petroleum group. Latin America was close behind, followed by the Middle East. Total book value of the petroleum group at the end of the year was $16.3 billion. In some regions, particularly the Middle East, direct investment by the United States in the petroleum group constitutes the largest single source of foreign investment.

Direct private investment of the United States in foreign mining and smelting industries in 1965 is shown in table 42. Total value of this investment was $3.8 billion, or about one-fourth of the level of the petroleum investment. Canada and the Latin American countries accounted for three-quarters of the investment in mining and smelting as well as for two-thirds of the income generated by the industries in this group.

Expenditures for new plant and equipment by firms in mining and selected mineral manufacturing industries is shown in table 43. In the mining sector in 1966, expenditures totaled $1.47 billion, compared to expenditures of $26.99 billion in all manufacturing. In petroleum and coal products manufacturing, expenditures increased $600 million over the 1965 level to $4.42 billion; chemical and allied product expenditures were up $400 million to $2.99 billion; and primary iron and steel was up $240 million to $2.17 billion.

Sources of funds for direct foreign investment by United States mining and smelting industries are shown in table 44. In 1965 funds from all sources for this investment increased $323 million to $1.4 billion, with Canada and Latin America continuing to account for over two-thirds of the total. The major source of these funds was net income generated within the industries. Only relatively small portions of the total were obtained from outside sources of funds, either in the United States or abroad.

Uses of funds for direct foreign investment by United States mining and smelting industries are shown in table 45. During the year, about half of all funds was expended for property, plant and equipment; two-fifths was income paid out; and the remainder went mainly to inventories, receivables, other assets, and miscellaneous uses.

Annual average profit rates on shareholders' equity in selected mineral manufacturing corporations are shown in table 46. The profit rate was highest in the chemicals and allied products group, 15.1 percent in 1966. This group also paid out the highest level of dividends, $1.7 billion, an increase of 10.3 percent over 1965. Primary nonferrous metals ranked second in profit rate in 1966, with a rate of 14.8 percent. This was an increase of almost one-quarter over the rate in 1965. Petroleum was third with a profit rate of 12.4 percent during the year.

As shown in table 47, the number of industrial and commercial failures and liabilities in mining (including fuels) in 1966 was considerably lower than in manufacturing. However, as mining is proportionally smaller than manufacturing in industrial and commercial activity, the two are not comparable. The number of failures in mining in 1966 was only 73, or 11 less than in 1965. Current liabilities in mining during the year were $15.7 million.

Estimated gross proceeds of new corporate securities offered in 1966 are shown in table 48. Proceeds from the extractive industries were only a small portion of the value of total corporate proceeds from new securities offered in 1966, $375 million compared to $18.1 billion. Over two-thirds of the proceeds in extractive industry offerings during the year came from bonds, while most of the remainder was common stock.

Plant and equipment expenditures of direct investments by country and major industry are shown in table 49. Mining and smelting expenditures rose to $826 million in 1966, an increase of 21 percent. The petroleum outlay of $2.7 billion during the year was up 20 percent, exceeding the previous high of 1957. Expenditures for manufacturing rose 23 percent to $4.8 billion. Canada, the Latin American Republics, and Europe received increased investment in all three categories during the year, except for mining and smelting in Europe.

Table 50 shows total direct foreign investments in the United States in 1966. The petroleum component in total investment accounted for $1.7 billion out of the total investment of $9.0 billion.

TRANSPORTATION

Natural gas moves almost entirely by pipeline. Crude petroleum and refined products are moved by pipeline, rail, water, and truck. Rail transportation is the principal method for shipping coal, but some coal moves by water and truck transportation.

Gas pipeline mileage, shown in table 51, totaled 767,990 miles in 1965, the latest year for which data are available. This was more than a 4-percent increase over that of 1964. Natural gas lines comprised more than 98 percent of the total, leaving about 1.4 percent used for manufactured, mixed, and liquefied petroleum gases.

Total petroleum mileage shown in table 52 was 210,867 miles at the beginning of 1965. This represents an increase of 5 percent over the 200,543 miles reported for 1962. Total pipeline fill at the beginning of 1965 was 100,694,000 barrels compared with the 1962 level of 86,123,000 barrels.

Movement by rail continued to be the dominant means of transporting coal in 1966. As shown in table 53, 73 percent of total bituminous production during the year was shipped via railroad. Table 54 shows rail transportation of major energy resources. Coal, mainly bituminous, accounted for 92 percent of total energy resources shipped by rail in 1965, the latest year for which data are available. Freight costs of bituminous coal shipped by rail have declined in recent years. Increased use of the unit train, long-term coal contracts, and continued heavy shipments of coal by rail to electric utility powerplants have made possible these decreases. Rail shipments of curde petroleum and natural gas and of gasoline in 1965 declined by 25 percent and 27 percent, respectively, from the 1964 level.

Table 55 shows water transportation of mineral energy resources and related products. In 1965, the latest year for which information is available, coal accounted for about 33 percent of the total water movement, while crude petroleum represented 17 percent. Refined petroleum products, with gasoline as its largest component, represented 50 percent of the total water transportation of energy resources.

GOVERNMENT ACTIVITIES

Bureau of Mines Research and Resource Development.—Research and development are fundamental factors in maintaining the Nation's industrial strength and security. Both Government and the private sector expend funds to advance knowledge and capabilities in developing new and revolutionary technology for the minerals and mineral fuels industries. During 1966, the Bureau of Mines continued work under established programs for mineral and energy resources development and research. In addition to analysis of problem areas relating to supply and demand of mineral resources including fossil fuels, new emphasis was placed during the year on development of more precise and sophisticated techniques for forecasting key components of the minerals and energy economies, both for the short and long terms. Problems encountered and evaluated under the Bureau's resources development programs become subjects of investigation and analysis under the programs for research.

National expenditures for research and development activities in selected industries in 1965, the latest year for which data are available, are shown in table 56. Chemicals and allied products remained the major area for such expenditures accounting for 10.2 percent of funds expended, while petroleum refining and extraction accounted for 3.2 percent of the total. Federal Government money accounted for 57 percent of total research and development activity expenditures in 1965. However, only about 3 percent of this can be related to minerals and mineral fuels (table 56). This shows about 1 percent devoted to petroleum refining and extraction and about 2 percent to chemicals and allied products.

Obligations of funds by the Bureau of Mines for mining and mineral research and development shown in table 57, totaled 33.5 million dollars during the fiscal year 1967. Of this, $20.8 million consisted of obligations relating to resource development and research programs for minerals excluding fuels, and $12.7 million for programs relating to mineral fuels. Total obligations by the Bureau for basic and applied research during fiscal year 1967 were

$4.8 and $23.7 million, respectively. Of the Bureau's expenditures obligated for applied research in fiscal year 1967, $6.1 million was for metallurgy and material research, as shown in table 58. Total research funds of $28.5 million obligated by the Bureau of Mines in fiscal year 1967, indicated in table 59, are divided among the following: Engineering sciences, $19.2 million; physical sciences, $8.3 million; mathematical sciences, $1.0 million.

Mining and metallurgical research planned by the Bureau of Mines is designed to continually advance the entire process of extracting raw materials from the earth so as to assure the full and wise use of these vital resources. Advances were made in 1966 in the development of scientific equipment and techniques needed to measure natural phenomena, and in the generation of basic data on which to base technological improvements.

Some noteworthy accomplishments of the Bureau in mining research included: Development of a petrographic technique that is able to identify changes in the mode of failure that would account for the apparent change in strength of rock with different rates of loading; studies of the physical processes involved in breaking rock with explosives demonstrated that strain waves generated by both short and long cylindrical charges in rock can be predicted using a computer model based on actual wave shapes recorded from incremental charges; and closely controlled scientific studies demonstrated that the Bureau's modified microseisimc equipment can be used for determining the magnitude and location of rock bursts in deep underground mining operations.

An interesting and significant discovery in metallurgy research during the year was a laboratory and pilot plant demonstration that approximately 2 tons per day of uranium oxide (U_3O_8) can be recovered from the spent liquors of the Bingham Canyon, Utah, copper plant. About the same amount of yttrium oxide can be likewise recovered from the solutions by a similar technique, which is based on iron exchange.

During 1966 the Bureau's fused salt electrolysis procedure for production of vanadium of a much higher purity than is available on the market today was scaled-up to a pounds per day level. This development has elicited much interest from the Atomic Energy Commission and other organizations.

In metals research the Bureau sponsored in 1966 a number of outside projects on improving and increasing the use of ferrous scrap in iron and steel making. This was in addition to the inhouse research in these areas conducted in Bureau research centers. Much of the work was in connection with the national beautification program. A national survey of the scrap auto problem was completed as one phase of study which led to a comprehensive special report issued early in 1967 titled, "Automobile Disposal, A National Problem." Construction of a Bureau of Mines pilot plant designed to utilize scrap from old cars to convert low-grade nonmagnetic taconite to magnetic ore that could be upgraded to high grade concentrate was started on the Mesabi range. Another research project underway will attempt to make auto hulks more readily usable in blast furnaces by selectively melting out the copper, aluminum, zinc, and other nonferrous metals that act as contaminants in steelmaking.

The Bureau continued to seek new and economic methods for recovering the metal values from municipal wastes in 1966. In its new laboratory at Edmonston, Md., the Bureau is looking for a better method for recovering tin cans from incinerator residues. The cans would be shredded to become the active element in a process that recovers additional copper from solutions used to leach the red metal from its ores. The constant aim of the various solid waste disposal programs is to convert obnoxious and dangerous wastes into materials that will serve mankind.

With regard to air pollution, a rapidly increasing nationwide problem, two major programs were underway in the Bureau in 1966. One is concerned with the removal of sulfur and sulfur dioxide from the effluent of powerplants burning residual fuel. The other is aimed at abating the pollution caused by the burning of gasoline in internal combustion engines, including gasoline and diesel engines. An essential step was also taken by the Bureau toward eliminating the land pollution that accompanies surface mining, by completion of the first phase of a nationwide study of the reclamation and restoration problems posed by such operations. Water pollution research efforts of the Bureau during the year were primarily concerned with acid mine drainings, and studies were conducted on development of specific techniques for treating water from mines.

The Bureau's marine mineral mining program seeks to supplement mineral resources of the land with minerals from under the sea. In 1966, program activity was aimed at looking for the more valuable heavy metals, including gold and silver. Scientists and engineers on the Virginia City, the Bureau's newest and largest oceanmining research vessel, sampled undersea sediments and rocks in the waters of the continental shelf off Alaska, Oregon, and California, in an endeavor to better understand the environments of deposition and thereby expand the domestic resources base of these metals.

In oil shale research in 1966, the first stage of a multimillion-dollar program of experimentation was completed at the Anvil Points, Colo., oil-shale installation formerly operated by the Bureau of Mines. This was carried out with the financial backing of six major oil companies. These initial experiments included successful trials with two small, Bureau-designed oil-shale retorts and limited research on the mining and crushing of shale. This research and development project is aimed at perfecting the technology for commercial production of petroleum-like materials from the extensive oil-shale deposits of Colorado, Utah, and Wyoming. Other Bureau oil-shale research work in 1966 included research to determine whether it is technically feasible to fracture and retort oil-shale underground, thereby avoiding costs of mining it and dispensing of the spent shale after retorting. One promising approach uses high voltage electricity to burn pathways in a shale deposit. Still another approach is the use of a nuclear explosive in deep, thick deposits to create a large subsurface "chimney" of crushed shale, which also might be retorted in place.

Coal liquefaction and gasification studies were continued by the Bureau. This program is trying to develop improved processes for conversion of coal to liquid and gaseous fuels so that present methods, which are not now competitive with products produced from petroleum and natural gas, can begin to compete in the more favorable geographic areas. Achievements in fiscal 1967 included the following:

In the hydrogenation of coal to liquids, autoclave studies indicated the possibility of converting coal to liquids with steam and at comparatively low pressures. Good yields have been obtained at pressures as low as 1,200 psi. Aluminum chloride was found to be a very active coal hydrogasification catalyst. A hydro-carbon gas yield of 67 percent was obtained with an acceptable catalyst to coal weight ratio, and results obtained show that catalytic hydrogasification of coal is chemically feasible at temperatures 300° to 400° C lower than are now being used.

Work also continued during the year on other new potential markets for coal. Of particular note is the progress being made on the use of bituminous coal as a raw material for a variety of carbon black uses. Industry has been especially interested in results of Bureau experiments yielding a substance that has properties nearly identical to a commercial product called "thermal black." Until now, all commercial carbon black—including the thermal variety—has been obtained from petroleum or natural gas.

New emphasis was placed by the Bureau during 1966 on the development of techniques to conduct more sophisticated and reliable economic forecasts of mineral and mineral fuels supply and demand. Through economic analysis and use of econometric techniques, trends in future supply-demand patterns for resources are estimated. This helps to identify future problem areas and to guide the Bureau in its decisions regarding choice of research programs and to arrive at solutions that are clearly needed in the public interest. Accomplishments and findings under these programs are reported in the various Bureau publications.

The Bureau continued its health and safety research activities during 1966 which traditionally have been aimed at minimizing primary mining hazards. In 1966, the safety record of the mineral and mineral-fuel mining and processing industries improved slightly for the second consecutive year as indicated by the reduced injury frequency and severity rates. In coal mining and preparation there were fewer fatal and non-fatal injuries, and for the coke-industry fewer non-fatal injuries than in any other year of the statistical histories. Injury-frequency improved but the injury-severity rate was less favorable than in 1965 in the oil and gas industries. The frequency rate of injuries at mineral (nonfuel) mines and processing plants worsened in 1966, except at slag plants; injury-severity rate improved in 1966 at nonmetal mines and mills, sand and gravel operations, slag plants, and primary nonferrous smelters and refineries, but was less favorable than in 1965 at metal and stone mines and mills.

Bureau research on explosives and explosions continued to contribute to many aspects of public safety in 1966. Bureau scientists lent significant support to the extensive National Aeronautics and Space Administration investigations of the Apollo fire that claimed the lives of three astronauts. Research accomplishments in this area included completion of a study of the incendivity of detonating cord, development of a rapid colorimetric method for the field determination of nitrogen dioxide in fumes explosives, and a special report on the ignition and flammability characteristics of over 80 lubricants, engine oils, and hydraulic fluids.

The national helium conservation program, the objective of which is to obtain the maximum beneficial use of the helium resources of the United States, was continued during 1966 through three separate but interrelated and interdependent subprograms: The production and sale of helium for present use, the acquisition and storage of helium that would otherwise be wasted in the consumption of helium-bearing natural gas, and the conduction of fundamental and applied research that will contribute to more effective utilization of the Nation's helium resources. Current research projects include process development studies for helium purification, as well as for "enrichment" of the conservation helium; the production and analysis of ultrapure helium; ond studies of the physical and thermodynamic properties of helium.

Legistlation and Government Programs—Much of the Government's activities with respect to the mineral and mineral fuels industries in 1966 had to do with maintaining stable supply and demand relationships for essential and strategic products and alleviating price and wage pressures in industries producing scarce materials. A booming economy, with rising consumer demand at home and the pressures on supply from the Viet-Nam war, strained productive capacity in many of the mineral and mineral fuels industries in 1966. The result was pressure for higher prices and wages.

Government actions to maintain price stability and assure essential supplies of scarce resources, centered around the wage-price guideposts and use of the strategic materials stockpile. The guideposts are used to determine whether proposed price or wage increases in specific industries would create inflationary pressures. The rationale of the guideposts is that wage-price shifts should be geared to productivity shifts, to avoid inflation. In most of the mineral and mineral fuels industries in 1966, producers practiced restraint in price and wage increases. In a purely competitive market, prices in many mineral and mineral fuel industries would have risen faster and farther than they did during the year. In minerals, shifts in the copper and sulfur industries were typical cases where voluntary restraint held prices below levels that would have cleared the market.

With regard to the national stockpile program, the Office of Emergency Planning (OEP) completed during 1966 reviews of stockpile objectives for several materials based upon new supply-requirements studies of conventional war. Programs were under development during the year to dispose of any surplus materials generated by the change. At the end of the year nuclear war stockpile objectives had been determined for all materials classified as strategic and critical and included in the national stockpile. The stockpile was also used in 1966 to stabilize fluctuations in supply and demand and prices for certain strategic materials. As shown in table 60, the strategic materials held in all government inventories, as of December 31, 1966, amounted to $7.2 billion at acquisition cost and $6.8 billion at estimated market value. Of the total materials in the government inventories, approximately $4.0 billion at cost and $3.5 billion at estimated market value were considered to be in excess of stockpile objectives in 1966. Over 83 percent of the market value of the total excess is made up of 12 materials: Aluminum, bauxite (Jamaica and Surinam), metallurgical-grade chromite, cobalt, industrial diamond, lead, metallurgical-grade manganese, nickel, rubber, tin, tungsten, and zinc. Major stockpile items sold in 1966 were aluminum, copper, nickel, platinum, rubber, tin, and zinc. Materials in short supply during the year included aluminum, bismuth, copper, magnesium, mercury, molybdenum, nickel, platinum, tin, and vanadium. In the case of bismuth, magnesium, molybdenum nickel, and platinum, additional quantities became available over and above stockpile needs as new conventional war requirements studies involving these materials were completed. Total stockpile disposal of mineral commodities during 1966, as indicated in table 61, was $695 million.

Continued exploration for new domestic sources of strategic and critical mineral commodities was encouraged during 1966 by government assistance under the Office of Minerals Exploration (OME) program. During fiscal year 1967, 12 contracts representing a government participation of $379,925 were executed. Small mine operators have been an important factor in maintaining adequate supplies of vital minerals, and the OME program enables them to continue their significant contributions.

The Appalachian Regional Development Act of 1965 directed the Secretary of the Interior to evaluate the nationwide effects of surface mining and to recommend any corrective action he considered necessary. In the wide-ranging study that followed, it was found that every State has been affected by surface mining. More than 3 million acres have been disturbed and though attempts at reclamation have been made, over 2 million acres still urgently required restoration work just to preserve water quality in the streams and rivers that drain them. The Bureau of Mines, which had coordinated the surface-mining study of the Department, continued to battle the damaging side effects of past coal mining operations, both surface and underground. During the 1967 fiscal year, 12 fires in abandoned coal mines were attacked in cooperative State-Federal control projects with an estimated cost of nearly $11.5 million. By yearend, three fires had been controlled. The other nine projects, including two designed to subdue large and dangerous fires near Scranton and Wilkes-Barre, Pa., were still underway.

Other urgent Federal programs underway in 1966 under the Clean Air and Solid Waste Disposal Acts and the Federal Water Pollution Control Act are being helped through Bureau research. The Bureau's programs are concerned with minerals-related pollution, and are advancing knowledge in such areas as the combustion of fossil fuels, automotive exhaust-gas emissions, and the pollutants generated in mining and processing minerals.

In accordance with the provisions of the Wilderness Act, the Bureau of Mines during 1966 continued its mineral surveys of areas in the National Wilderness system.

In all its activities during 1966 the Bureau sought to achieve the development of new technologic means to assure an adequate supply and dependable flow of essential minerals including fossil fuels necessary to maintain the Nation's economy, while restoring and preserving environmental quality.

WORLD REVIEW

In 1966 shifts and imbalances in world mineral and mineral fuels supply and demand were aggravated as the world economy continued to grow. While data for gross national product were unavailable for most countries for 1966, other indicators suggested a general increase in economic activity. Overall gains in world industrial production during the year, shown in table 62, were at a more modest rate than in previous years.

However, in the extractive industries throughout the world in 1966, net gains reported were generally at a slightly higher rate than in 1965. The United States and Canada, along with non-Communist Asia, registered sufficient increases in extractive output to more than compensate for minor losses by the Latin American and European regions. Africa, not separately listed in table 62, also moved upward from the 1965 level.

Major mineral processing sectors, including basic metals, nonmetal products, coal and petroleum products, and chemicals, registered gains in most non-Communist countries. In many instances these exceeded gains in other industrial sectors. Most Communist nations reported similar expansion in extractive output during the year. Non-Communist Asia, dominated by Japan, led other world areas in mineral processing gains in 1966, while Canada-United States and Europe showed only modest increases. Comparisons of world production and United States production and trade in principal minerals and mineral fuels in 1966 are shown in table 63.

Among the major metals there was a considerable dislocation between the world supply and demand for copper in 1966. While output of smelter copper was about 300,000 metric tons higher than in 1965, rising demand and fears of shortages by consumers caused a disruption of supply-demand balances. Contributing factors were political problems in some of the major producing countries, sharp price increases, imposition of trading controls, and large sales from U.S. stockpiles.

Silver was also in short supply in world markets in 1966. Mine production failed to respond to higher price pressures and was slightly below the 1965 level. The U.S. Treasury continued to hold to its US$1.29 price, and Treasury sales continued to make up a significant part of industrial supply in 1966.

Although world demand for gold increased during the year, world gold prices did not rise, and recorded world production in 1966 was only slightly higher than in 1965. Because of hoarding and other drains upon the supply, the quantity of new gold entering official monetary reserves was very small. World trade values continued to increase much faster than monetary gold reserve values, and the virtual stagnation of the latter in 1966 aggravated the gold problem.

Among the nonmetals, world sulfur output rose to new high levels in 1966 but demand continued to exceed supply primarily because of the heavy need for sulfuric acid for phosphatic fertilizer processing. Lack of available sulfur in 1966 dampened the rising trend of production of mineral fertilizers.

In mineral fuels, petroleum and natural gas continued to increase their relative importance as world sources of energy in 1966, winning most of the new markets for energy as well as further encroaching on traditional coal markets. The oil-coal substitution pattern was particularly evident in Europe where crude oil from the Middle East was laid down at a cost about half of that of marginal domestic coal mined, for example, in West Germany. The rate of substitution of oil for coal continued to be restrained in some instances by governmental controls because of domestic sociopolitical problems, foreign exchange shortages, and considerations of energy self-sufficiency. Increased oil output by most of the major oil-producing countries in 1966 was not matched by Venezuela. That country recorded a significant decline in crude production during the year.

Although final trade returns for minerals and mineral fuels were not available for most countries, it was evident that the rising trend of world mineral trade, continued in 1966. Table 64, summarizes this trend for major mineral commodity groups for 1963–65 and shows 1965 world trade and distribution of imports and exports of minerals and mineral fuels by commodity groups for major countries and world areas. The net value of world trade in mineral and mineral fuels in 1965 was $186 billion or 8 percent greater than in 1964. Table 65, indicates the direction of flow of the aggregate of the major mineral and mineral fuels commodity groups for 1965.

In keeping with the rising trend of world economic acitvity, mineral and mineral fuels consumption continued to rise in 1966. Table 66 reflects the increases for major nonferrous metals. World aluminum consumption during the year was up 7 percent, copper 4 percent, lead 6 percent, tin 2 percent, and zinc 1 percent. Although no data were available on world consumption of mineral fuels and electricity, demand is estimated to have continued to increase during 1966.

World ocean freight rates during 1966, shown in table 67, averaged slightly lower than in 1965. Dry cargo rates were generally down throughout the year, but tanker rates began to firm up by midyear and showed a rising trend for the last half of 1966. World merchant shipbuilding activity remained strong in 1966. Japan, Poland, Italy, and Norway were among countries with shipbuilding rates considerably higher than in 1965. Construction of pipelines for oil and gas continued to expand throughout 1966. The Trans-Alpine line from Trieste on the Adriatic Sea to Ingolstadt on the Danube River, which will carry crude oil to the interior of Europe, neared completion by yearend. North Sea gasfields were linked to the United Kingdom by completion of an undersea line. In Africa transportation of copper from landlocked Zambia became critical as normal overland transportation routes became unavailable as the result of political problems. Small tonnages were flown out of the country, it being indicated that such transport was economic at the prevailing high price of copper.

Price indexes for selected world exports in 1966 are shown in table 68. Through half of 1966 indexes were slightly higher than the annual average in 1965, and the quarterly indexes disclosed a falling trend at the end of the year. The drop was much sharper in mineral exports from developed areas than in those from developing areas, as indicated in the analysis of world export price indexes in table 69. The fuel price index held remarkably steady at the same level as in 1965. Major metal prices on the world markets showed sharp fluctuations during 1966. However, there was no distinct upward or downward trend for metals, and the price of each metal was subject to its own unique supply-demand situation. The response of the copper prices in the world market was particularly sharp due to the uncertain supply situation. Supply was bolstered by the sale of 300,000 tons of U.S. stockpile copper which just about balanced the market. By the end of the year supply and consumption were almost in balance in spite of the heavy demands on the metal. Uncertainties as to the ability of some major African producers to continue to supply the market pushed world prices during 1966 to over US$0.60 per pound. Actions by the U.S. Government served to insulate the domestic market from the world price trends, and in the United States copper sold at US$0.36 to US$0.38 per pound throughout the year. Tin, lead, and zinc prices softened on the world market during 1966. Prices of lead and zinc in the United States were somewhat firmer. At yearend, the price of lead in the London Metal Exchange was considerably under the New York price reflecting varying views of the market. U.S. stockpile sales of these metals added to the supply during 1966. In an effort to hold a satisfactory price level, zinc producers announced a 10-percent cutback in production. London prices tended to steady just below producers prices, but there was considerable speculation as to how long producers could maintain their position.

Table 1.—Value of mineral production, imports, and exports by groups

(Million dollars)

Mineral group [1]	1962			1963			1964		
	Production	Imports	Exports	Production	Imports	Exports	Production	Imports	Exports
Metals and nonmetals except fuels:									
Nonmetals	$4,117	$260	$109	[r]$4,316	$286	$115	$4,623	$323	$141
Metals	1,937	686	110	2,002	695	137	2,261	917	151
Total	6,054	946	219	[r]6,318	981	252	6,884	1,240	292
Mineral fuels	12,784	1,165	385	[r]13,317	1,165	483	13,623	1,250	471
Grand total	18,838	2,111	604	[r]19,635	2,146	735	20,507	2,490	763

Mineral group [1]	1965			1966		
	Production [r]	Imports	Exports	Production	Imports	Exports
Metals and nonmetals except fuels:						
Nonmetals	$4,933	$354	$185	$5,177	$412	$228
Metals	2,471	973	154	2,621	1,192	158
Total	7,404	1,327	339	7,798	1,604	386
Mineral fuels	14,047	1,295	487	15,108	1,311	490
Grand total	21,451	2,622	826	22,906	2,915	876

[r] Revised.
[1] For details, see the "Statistical Summary" chapter of this volume.

Table 2.—Value of mineral production by group 1957–59 constant dollars [1]

(Million dollars)

Mineral group	1952	1953	1954	1955	1956	1957	1958	1959
Metals and nonmetals except fuels:								
Nonmetals	$2,503	$2,582	$2,948	$3,259	$3,464	$3,408	$3,483	$3,823
Metals	1,859	2,006	1,627	1,991	2,057	2,122	1,642	1,539
Total	4,362	4,588	4,575	5,250	5,521	5,530	5,125	5,362
Mineral fuels	11,195	11,321	10,841	11,743	12,531	12,496	11,694	12,144
Grand total	15,557	15,909	15,416	16,993	18,052	18,026	16,819	17,506

Mineral group	1960	1961	1962	1963	1964	1965	1966
Metals and nonmetals except fuels:							
Nonmetals	$3,774	$3,865	$4,044	$4,266	$4,537	$4,879	$5,051
Metals	1,953	1,875	1,850	1,978	2,004	2,070	2,195
Total	5,727	5,740	5,894	6,244	6,541	6,949	7,246
Mineral fuels	12,277	12,469	12,823	13,424	13,831	14,232	15,059
Grand total	18,004	18,209	18,717	19,668	20,372	21,181	22,305

[1] The constant dollar series has been revised for the time period 1952–65 because the deflator, the index of implicit unit value, was revised for the same period.

Table 3.—Indexes of the physical volume of mineral production by group and subgroup [1]

(1957–59=100)

	1952	1953	1954	1955	1956	1957	1958	1959
Metals:								
Ferrous	119.6	145.3	103.0	135.2	126.4	132.8	87.3	79.9
Nonferrous:								
Base	108.7	102.5	92.4	106.5	116.1	113.7	99.5	86.8
Monetary	111.8	112.7	107.3	109.2	108.7	106.8	100.7	92.6
Other	107.9	95.8	78.2	72.1	86.5	88.6	93.0	118.4
Total	107.8	101.7	91.0	98.1	108.9	107.5	98.2	94.3
Total metals	113.1	120.6	96.6	116.5	117.3	120.0	92.8	87.2
Nonmetals:								
Construction	68.8	71.1	79.1	89.0	94.1	94.2	98.1	107.6
Chemical	85.4	90.0	94.9	97.4	105.2	99.7	95.5	104.8
Other	100.2	96.4	88.9	103.0	109.4	100.1	93.9	106.0
Total	73.7	76.1	82.6	91.3	97.0	95.4	97.5	107.1
Fuels:								
Coal	112.6	107.1	92.6	106.9	115.5	112.5	93.7	93.8
Crude oil and natural gas [2]	87.7	90.4	89.2	95.6	101.0	101.6	96.4	102.0
Total	93.2	94.0	90.0	98.1	103.8	103.5	96.0	100.5
Total all minerals	91.4	93.0	89.1	98.4	103.7	103.3	96.0	100.7

	1960	1961	1962	1963	1964	1965	1966 p
Metals:							
Ferrous	109.0	96.2	90.4	95.8	108.3	r 110.4	119.1
Nonferrous:							
Base	107.5	114.3	120.9	120.8	125.8	135.8	142.2
Monetary	94.6	94.0	95.7	90.8	92.0	105.0	112.5
Other	137.2	134.2	126.8	112.2	114.3	r 98.2	98.1
Total	112.5	116.3	119.3	115.5	119.4	r 124.1	129.2
Total metals	110.8	106.4	105.0	105.7	113.9	r 117.3	124.2
Nonmetals:							
Construction	105.4	108.2	113.6	119.6	126.2	r 129.9	133.7
Chemical	107.6	110.5	114.2	120.5	132.1	r 151.8	166.0
Other	106.0	103.4	105.8	111.6	119.0	127.9	136.1
Total	105.8	108.3	113.3	119.4	126.9	r 133.5	139.3
Fuels:							
Coal	93.9	90.8	94.6	102.8	108.2	112.6	116.4
Crude oil and natural gas [2]	103.0	105.2	107.8	111.6	113.8	116.6	121.8
Total	101.6	103.1	106.0	110.8	114.0	117.3	123.6
Total all minerals	103.3	104.5	107.4	112.2	116.7	r 120.7	126.9

p Preliminary. r Revised.

[1] The 1957–59 weighted segment of the index has been spliced to the 1947–1949 weighted series. The splicing period was 1952–56. Periodic reweighting and revising of the index is necessary because of changes over time in the components and of their relative importance. Splicing the segments accounts for these changes and maintains comparability in the historical series.

[2] Does not cover isopentane, LP gases, and other natural gas liquids.

Table 4.—Federal Reserve Board indexes of industrial production, mining and selected mineral and mineral fuels related industries

(1957–59=100)

	1962	1963	1964	1965	p 1966
Mining:					
Coal	95.3	102.5	107.1	113.3	115.2
Crude oil and natural gas:					
Crude oil	105.1	108.1	109.9	111.9	119.4
Gas and gas liquids	120.4	128.7	136.1	143.0	151.7
Total [1]	105.5	107.9	110.4	112.3	118.0
Total coal, oil, and gas	103.8	107.0	109.8	112.5	117.6
Metal	112.6	112.3	117.4	124.2	132.7
Stone and earth minerals	109.7	112.1	118.7	126.5	133.5
Total metal, stone, and earth minerals	110.9	112.2	118.1	125.5	133.2
Total mining	105.0	107.9	111.3	114.8	120.3
Industrial production:					
Primary metals	104.6	113.3	129.1	137.6	142.7
Iron and steel	100.6	109.6	126.5	133.6	136.2
Nonferrous metals and products	119.1	126.7	138.3	152.2	166.5
Clay, glass, and stone, products	111.1	117.5	126.0	133.5	140.7
Total industrial production	118.3	124.3	132.3	143.4	156.3

p Preliminary.

[1] Total includes oil and gas drilling.

Source: Board of Governors of the Federal Reserve System. Federal Reserve Bulletin, monthly issues February–June 1967. A description and historical data are available in Business Indexes, Industrial Production, 1957–59 Base, published by Federal Reserve, monthly.

Table 5.—Federal Reserve Board monthly indexes of mining production seasonally adjusted

(1957–59=100)

Month	Total mining		Coal, oil, and gas		Coal		Crude oil and natural gas			
							Total[1]		Crude oil	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
January	111.8	117.3	109.4	113.6	107.7	114.4	109.8	113.5	109.8	114.1
February	111.8	117.7	109.4	114.3	103.2	111.2	110.6	115.0	108.6	115.1
March	112.5	120.0	110.0	116.7	103.1	117.7	111.4	116.5	110.5	117.0
April	113.0	115.6	111.3	111.6	107.9	85.3	112.0	117.0	111.4	117.2
May	114.0	120.7	112.1	118.8	113.0	116.9	111.9	119.1	111.3	121.3
June	115.3	122.0	113.3	119.5	117.1	120.7	112.5	119.3	112.2	121.4
July	116.0	122.0	113.7	119.5	117.1	120.8	113.0	119.2	112.1	120.9
August	117.0	122.1	114.4	119.7	115.2	120.7	114.2	119.6	113.4	121.2
September	112.5	121.0	109.8	118.8	108.1	114.7	110.1	119.6	108.5	121.3
October	116.4	121.6	114.6	119.8	117.2	121.5	114.0	119.5	114.0	121.1
November	116.4	121.0	114.6	118.4	116.6	114.0	114.1	119.3	114.5	120.8
December	118.3	123.0	115.7	120.1	118.9	125.2	115.0	119.0	116.0	120.8
Annual average	114.8	p 120.3	112.5	p 117.6	113.3	p 115.2	112.3	p 118.0	111.9	p 119.4

Month	Crude oil and natural gas		Metal, stone, and earth minerals		Metal mining		Stone and earth materials	
	Gas and gas liquids							
	1965	1966	1965	1966	1965	1966	1965	1966
January	134.6	143.8	123.3	134.6	126.7	133.4	120.8	135.5
February	141.0	149.0	123.1	133.6	123.4	130.8	122.9	135.6
March	140.2	148.1	124.3	136.0	124.6	134.5	124.1	137.1
April	144.0	152.2	121.4	134.6	125.8	139.7	118.2	130.9
May	143.1	152.2	122.9	130.1	121.6	133.6	123.9	127.5
June	146.5	154.4	124.9	133.7	123.7	134.2	125.8	133.3
July	147.9	155.1	126.9	133.8	126.4	134.0	127.3	133.7
August	144.6	155.5	129.6	133.1	130.2	132.1	129.1	133.8
September	144.8	154.4	125.3	131.4	122.4	128.6	127.4	133.5
October	144.5	154.6	125.1	129.9	124.6	129.4	125.5	130.3
November	142.6	153.3	125.1	133.2	114.2	133.0	133.2	133.4
December	143.9	152.3	130.7	137.1	120.6	134.2	138.2	139.3
Annual average	143.0	p 151.7	125.5	p 133.2	124.2	p 132.7	126.5	p 133.5

p Preliminary.

[1] Total includes oil and gas drilling.

Source: Board of Governors of Federal Reserve System. Federal Reserve Bulletin, monthly issues February–June 1967.

Table 6.—Production of mineral energy resources and electricity from hydropower and nuclear power

(Trillion Btu)[1]

Year	Anthracite	Bituminous coal and lignite	Natural gas, wet (unprocessed)	Crude petroleum	Electricity		Total
					Hydropower	Nuclear power	
1962	429	11,060	15,365	15,495	1,774	23	44,146
1963	464	12,024	16,271	15,741	1,741	33	46,274
1964	436	12,759	17,056	15,690	1,861	34	47,836
1965	378	13,417	17,652	15,930	2,051	39	49,467
1966 p	329	13,988	18,885	17,293	2,050	58	52,603

p Preliminary.

[1] Hydropower and nuclear power include installations owned by manufacturing plants and mines, as well as Government and privately owned public utilities. The fuel equivalent of hydropower and nuclear power is calculated from the kilowatt-hours of power produced, converted to coal input equivalent at the prevailing average pounds of coal per kilowatt-hour each year at central electric plants, using 12,000 Btu per pound.

Table 7.—Consumption of mineral fuels, electricity, and major mineral products, 1965, 1966, and projections to 1980

Commodity	1965	1966 [p]	1980 projection	Average annual growth rate 1947–65 (percent)	Projected average annual growth rate 1966–80 (percent)
Mineral energy resources and electricity:					
Bituminous coal____million short tons__	459	486	[1] 675–737	−1.1	+2.3 to +3.0
(Coal carbonized for coke)___do____	(95)	(96)	[1] (97)	(− .6)	+ .1
Anthracite____________________do____	13	11	[1] 10.0	−7.1	− .9
Petroleum, including natural gas liquids______________million barrels__	4,202	4,411	[1] 6,665	+4.3	+3.0
Natural gas, dry [2]____billion cubic feet__	15,598	16,759	[1] 24,594	+7.3	+2.8
Electricity generation, net million kilowatt-hours__	1,157,583	1,248,232	NA	+7.6	NA
Utilities__________________do____	1,055,111	1,143,736	[1] 2,737,000	+8.2	+6.4
Hydropower [3]__________do____	193,709	195,571	[1] 338,000	+1.9	+4.0
Nuclear power__________do____	3,657	5,521	[1] 458,000–723,000	[4] +54.0	+37.0 to +42.0
Conventional fuel burning plants_______________do____	857,745	943,733	[1] 1,676,000–1,941,000	+9.2	+4.2 to +5.3
Industrial_________________do____	102,331	104,496	NA	+3.9	NA
Total energy resources inputs trillion Btu__	53,785	56,835	[1] 88,075	+2.7	+3.2
Mineral products:					
Ferrous metals:					
Iron ore______thousand long tons__	[r] 131,888	134,060	173,000	+0.8	+1.9
Raw steel [5] [6]__thousand short tons__	131,462	134,101	174,000	+1.5	+1.9
Ferrous scrap_______________do____	90,359	91,583	116,000	+1.0	+1.7
Chromite ores (gross weight):					
Metallurgical grade_____do____	907	828	2,000	+4.0	+6.5
Refractory grade_______do____	457	439	257	+0.8	−3.8
Chemical grade________do____	217	194	270	+2.0	+2.4
Manganese ore (35 percent or more Mn)___________________do____	[r] 2,873	2,369	3,700	+1.9	+3.2
Molybdenum (Mo content) [7] thousand pounds__	48,621	52,324	104,000	[8] +5.2	+5.0
Tungsten (W content)______do____	13,868	17,710	32,000	+3.6	+4.3
Nonferrous metals:					
Aluminum [9]__thousand short tons__	[r] 3,734	4,002	10,400	+7.4	+7.1
Antimony, primary____short tons__	16,919	19,681	35,000	−1.5	+4.2
Copper, refined thousand short tons__	2,039	2,128	2,700	+0.4	+1.7
Lead, primary and secondary do____	1,241	1,324	1,900	0.0	+2.6
Zinc, all classes____________do____	1,742	1,807	3,300	+1.3	+4.4
Mercury_________76-pound flasks__	[r] 73,560	72,033	107,000	+3.4	+3.0
Platinum group metals thousand troy ounces__	1,187	1,676	4,000	+6.9	+6.4
Silver, industrial consumption [10] do____	NA	183,696	318,000	NA	+4.0
Ilmenite and Ti slag (est. TiO_2 content)____________short tons__	588,485	601,062	1,190,000	+4.8	+5.0
Uranium (U_3O_8 content) [6]___do____	10,442	9,483	[11] 35,000–40,000	[8] +4.9	+9.8 to +10.8
Nonmetals:					
Asbestos [9]____thousand short tons__	795	805	1,100	+0.8	+2.3
Cement [6]_________million barrels__	382	394	720	+3.7	+4.4
Clays [9]______thousand short tons__	[r] 54,384	55,740	74,000	+2.1	+2.0
Lime [12]____________________do____	16,794	18,057	40,000	+5.3	+5.8
Phosphate rock [9]___________do____	21,864	27,382	53,000	+4.9	+4.9
Potash (K_2O content) [9]_____do____	3,391	3,999	9,500	+6.4	+6.4
Salt [9]_____________________do____	36,409	38,280	77,000	+4.6	+5.1
Sand and gravel [12] million short tons__	908	934	1,800	[13] +4.2	+4.8
Stone, crushed [12]___________do____	778	811	1,500	+8.1	+4.5
Sulfur, all forms [9] thousand long tons__	[r] 7,980	9,158	18,800	+3.0	+5.3

[p] Preliminary. [r] Revised.
NA Not available.

[1] "Pattern of Energy Consumption in the United States, 1947 to 1965 and 1980 Projected." Presented at World Power Conference, Tokyo, Japan, October 1966, Paper 83 1A, 24 pp. Coal nuclear, power and total electric utility projections for 1980 based on alternate assumptions of 70,000 and 110,000 megawatts of nuclear capacity in 1980.

[2] Residue gas excludes extraction loss but includes transmission loss.

[3] Net generation, adjusted for net imports or exports. The bulk of net trade is hydropower with an undetermined portion of steam plant power.

[4] Growth rate 1957–65.

[5] Change in terminology from steel ingot to raw steel.

[6] Production.

[7] Changed from concentrate (Molybdenum content) to molybdenum contained in primary products.

[8] Growth rate 1956–65.

[9] Apparent consumption.

[10] Comparable data not available prior to 1966.

[11] Faulkner, R. L., U.S. Atomic Energy Commission. "Review of Nuclear Fuel Requirements and Resources." Remarks at the Canadian Nuclear Association Conference 1967, Montreal, Canada, May 30, 1967.

[12] Sold or used.

[13] Growth rate 1954–65.

Table 8.—Calculated gross consumption of mineral energy resources, and electricity from hydropower and nuclear power in British thermal units (Btu), and percent contributed by each [1]

Year	Anthracite	Bituminous coal and lignite	Natural gas, dry	Petroleum (excluding natural gas liquids)	Natural gas liquids	Electricity		Total
						Hydropower	Nuclear power	
				Trillion Btu				
1962	363	10,160	14,027	[r] 19,681	[r] 1,586	1,780	23	47,620
1963	361	10,722	14,843	[r] 20,247	[r] 1,703	1,740	33	49,649
1964	365	11,295	15,562	[r] 20,590	[r] 1,796	1,873	34	51,515
1965	328	12,030	16,098	21,364	1,877	2,049	39	53,785
1966 [p]	290	12,740	17,295	22,403	1,989	2,060	58	56,835
				Percent				
1962	0.8	21.3	29.4	[r] 41.4	[r] 3.3	3.7	0.1	100.0
1963	.7	21.6	29.9	[r] 40.7	[r] 3.5	3.5	.1	100.0
1964	.7	21.9	30.2	40.0	3.5	3.6	.1	100.0
1965	.6	22.4	29.9	39.7	3.5	3.8	.1	100.0
1966 [p]	.5	22.4	30.4	39.5	3.5	3.8	.1	100.0

[p] Preliminary. [r] Revised.

[1] Heat values employed are anthracite, 12,700 Btu per pound; bituminous coal and lignite, 13,100 Btu per pound; crude oil 1962; 5,674,510 Btu, 1963; 5,718,300 Btu, 1964: 5,630,254 Btu, 1965; 5,531,000 Btu and 1966: 5,530,000 Btu, weighted average British thermal units for petroleum products obtained by using 5,248,000 gasoline, 5,670,000 kerosine, 5,825,000 distillate, 6,287,000 residual, 6,064,800 lubricants, 5,537,280 wax, 6,636,000 asphalt, and 5,796,000 miscellaneous; natural gas dry, 1,032 Btu per cubic foot; natural gas liquids weighted average British thermal unit based on production of natural gasoline at 110,000 Btu per gallon, and LP gas at 95,500 Btu per gallon. Hydropower and nuclear power converted to coal equivalent at the prevailing rate of pounds of coal per kilowatt-hour each year at central electric stations using 12,000 Btu per pound.

Table 9.—Gross consumption of energy resources by major sources and consuming sectors [1]

(Trillion Btu)

Consuming sectors	Anthracite	Bituminous and lignite	Natural gas, dry [1]	Petroleum [2]	Hydro-power [3]	Nuclear power [3]	Total gross energy inputs [4]	Utility electricity purchased [5]	Total sector energy inputs [6]
Household and commercial:									
1962	121	799	4,849	5,227	-----	-----	10,996	1,490	12,486
1963	103	671	5,027	5,258	-----	-----	11,059	1,645	12,704
1964	85	560	5,314	5,190	-----	-----	11,149	r 1,795	r 12,944
1965	r 168	546	5,518	5,635	-----	-----	11,867	1,948	13,815
1966 p	7 143	575	5,945	5,769	-----	-----	12,432	2,130	14,562
Industrial:									
1962	49	4,761	6,748	3,880	-----	-----	15,438	1,402	16,840
1963	57	5,015	7,159	3,994	-----	-----	16,225	1,464	17,689
1964	46	5,362	7,397	4,184	-----	-----	16,989	1,544	18,533
1965	7 101	5,640	7,671	4,138	-----	-----	17,550	1,634	19,184
1966 p	7 88	5,806	8,105	4,334	-----	-----	18,333	1,756	20,089
Transportation: [8]									
1962	-----	20	396	11,001	-----	-----	11,417	17	11,434
1963	-----	19	439	11,506	-----	-----	11,964	19	11,983
1964	-----	20	448	11,791	-----	-----	12,259	r 17	12,276
1965	-----	19	517	12,179	-----	-----	12,715	18	12,733
1966 p	-----	18	553	12,785	-----	-----	13,356	16	13,372
Electrical generation, utilities: [3]									
1962	58	4,580	2,034	579	1,780	23	9,054	2,909	-----
1963	55	5,017	2,218	600	1,740	33	9,663	3,128	-----
1964	57	5,353	2,403	636	1,873	34	10,356	3,356	-----
1965	55	5,825	2,392	744	2,049	39	11,104	3,600	-----
1966 p	56	6,341	2,692	905	2,060	58	12,112	3,902	-----
Miscellaneous and unaccounted for:									
1962	135	-----	-----	580	-----	-----	715	-----	-----
1963	146	-----	-----	592	-----	-----	738	-----	-----
1964	177	-----	-----	585	-----	-----	762	-----	-----
1965	7 4	-----	-----	545	-----	-----	549	-----	-----
1966 p	7 3	-----	-----	599	-----	-----	602	-----	-----
Total gross energy inputs:									
1962	363	10,160	14,027	21,267	1,780	23	47,620	-----	-----
1963	361	10,722	14,843	21,950	1,740	33	49,649	-----	-----
1964	365	11,295	15,562	22,386	1,873	34	51,515	-----	-----
1965	328	12,030	16,098	23,241	2,049	39	53,785	-----	-----
1966 p	290	12,740	17,295	24,392	2,060	58	56,835	-----	-----

p Preliminary. r Revised.

[1] Excludes natural gas liquids.

[2] Petroleum products including still gas, liquefied refinery gas, and natural gas liquids.

[3] Represents outputs of hydropower and nuclear power converted to theoretical energy inputs at prevailing rate of pounds of coal per kilowatt-hour at central electric stations, using 12,000 Btu per pound coal. Excludes inputs for power generated by nonutility plants which are included within the other consuming sectors.

[4] Gross energy is that contained in all types of commercial energy at time it is incorporated in economy, whether energy is produced domestically or imported. Gross energy comprises inputs of primary fuels (or the derivatives) and outputs of hydropower and nuclear power converted to theoretical energy inputs. Gross energy includes energy used for production, processing, and transportation of energy proper.

[5] Utility electricity, generated and imported, distributed to the other consuming sectors as energy resource inputs. Distribution to sectors is based on historical series in the Edison Electric Institute Yearbook. Conversion of electricity to energy equivalent by sectors was made at the value of contained energy corresponding to 100 percent efficiency using a theoretical rate of 3,412 Btu per kilowatt-hour.

[6] Energy resource inputs by sector, including direct fuels and electricity distributed.

[7] The household and commercial sectors include an estimated breakdown of undistributed energy formerly included under miscellaneous and unaccounted for.

[8] Includes bunkers and military transportation.

Table 10.—Domestic supply and demand for coal

	1965		p 1966	
	Thousand short tons	Trillion Btu	Thousand short tons	Trillion Btu
Anthracite:				
Supply:				
Production [1]	14,866.0	377.6	12,941.2	328.7
Imports	-----	-----	-----	-----
Exports [2]	−1,980.8	−50.3	−1,531.0	−38.9
Stock change	-----	-----	-----	-----
Losses, gains, and unaccounted for	14.8	.4	−10.2	−.2
Total	12,900.0	327.7	11,400.0	289.6
Demand by major consuming sectors: [3]				
Household and commercial [4] [5]	6,628.0	168.4	5,622.0	142.8
Industrial [5] [6]	3,956.0	100.5	3,455.0	87.8
Transportation [7]	([8])	([8])	([8])	([8])
Electricity generation, utilities	2,158.0	54.8	2,192.0	55.7
Miscellaneous and unaccounted for	158.0	4.0	131.0	3.3
Total	12,900.0	327.7	11,400.0	289.6
Bituminous coal and lignite:				
Supply:				
Production [1]	512,088.3	13,416.7	533,881.2	13,987.7
Imports	184.4	4.8	156.7	4.1
Exports	−50,181.4	−1,314.8	−49,302.4	−1,291.7
Stock change	−1,800.0	−47.2	−2,931.5	−76.8
Losses, gains, and unaccounted for	−1,127.3	−29.5	4,462.0	116.9
Total	459,164.0	12,030.0	486,266.0	12,740.2
Demand by major consuming sectors:				
Fuel and power:				
Household and commercial [4] [5]	19,048.0	546.0	19,965.0	575.3
Industrial [5] [6]	191,540.0	5,490.9	196,342.6	5,658.2
(Coal carbonized for coke)	(94,778.7)	(2,483.2)	(95,891.8)	(2,512.4)
Transportation [7]	655.0	18.8	609.0	17.5
Electricity generation, utilities	242,729.0	5,825.5	264,202.0	6,340.8
Total	453,972.0	11,881.2	481,118.6	12,591.8
Raw material: [9] Industrial:				
Crude light oil	1,303.5	37.3	1,303.2	37.6
Crude coal tar	3,888.5	111.5	3,844.2	110.8
Total	5,192.0	148.8	5,147.4	148.4
Total	459,164.0	12,030.0	486,266.0	12,740.2

p Preliminary.

[1] Includes use by producers for power and heat.

[2] Includes shipments to U.S. Armed Forces in West Germany.

[3] With the exception of small quantities used as raw material for coal chemicals, all anthracite is used for fuel and power.

[4] Data represent "retail deliveries to other consumers." These are mainly household and commercial users, with some unknown portion of use by small industries.

[5] The household and commercial and industrial sectors include an estimated breakdown of undistributed tonnage formerly included under miscellaneous and unaccounted for.

[6] Includes consumption by coke plants, steel and rolling mills, and other industrial users.

[7] Includes bunkers and military transportation.

[8] Data not available. Believed to be small and of minor significance.

[9] Coal equivalent based on British thermal unit value of raw materials used for coal chemicals.

Table 11.—Domestic supply and demand for natural gas

	1965		[p] 1966	
	Million cubic feet	Trillion Btu	Million cubic feet	Trillion Btu
Supply:				
Production [1]	16,039,753.0	17,652.3	17,206,628.0	18,885.3
Imports	456,394.0	471.0	463,035.0	477.9
Exports	−26,132.0	−27.0	−24,639.0	−25.4
Stock change	−118,115.0	−121.9	−52,110.0	−53.8
Transfers out, extraction loss [2]	−753,473.0	−1,876.8	−834,409.0	−1,989.2
Losses, gains, and unaccounted for	-----	-----	-----	-----
Total	15,598,427.0	16,097.6	16,758,505.0	17,294.8
Demand by consuming sectors:				
Fuel and power:				
Household and commercial	5,346,450.0	5,517.5	5,760,999.0	5,945.4
Industrial [3]	7,149,904.0	7,378.7	7,567,231.0	7,809.4
Transportation	500,524.0	516.6	535,353.0	552.5
Electricity generation, utilities	2,318,253.0	2,392.4	2,608,768.0	2,692.2
Total	15,315,131.0	15,805.2	16,472,351.0	16,999.5
Raw material: [4] Industrial:				
Carbon black	93,296.0	96.3	91,154.0	94.1
Other chemicals [5]	190,000.0	196.1	195,000.0	201.2
Total	283,296.0	292.4	286,154.0	295.3
Total	15,598,427.0	16,097.6	16,758,505.0	17,294.8

[p] Preliminary.

[1] Marketed production includes wet gas sold or consumed by producers, losses in transmission, producers' additions to storage, and increases in gas pipeline fill; excludes repressuring and vented and wasted. British thermal unit value of production is for wet gas prior to extraction of natural gas liquids. Higher values assigned to extraction loss are reflected in value of production for each year.

[2] Extraction loss from cycling plants represents offtake of natural gas for natural gas liquids as reported to Bureau of Mines. Energy equivalent of extraction loss is based on annual outputs of natural gasoline and associated products at 110,000 Btu per gallon and annual outputs of liquefied petroleum gases at 95,500 Btu per gallon.

[3] Includes transmission losses of 318,711 million cubic feet in 1965 and 401,203 million cubic feet in 1966.

[4] Includes some fuel and power use by raw materials industries.

[5] Estimated from partial data.

Table 12.—Domestic supply and demand for petroleum [1]

	1965		p 1966	
	Million bbl	Trillion Btu	Million bbl	Trillion Btu
Supply:				
Crude oil: [2]				
Production	2,848.5	15,929.7	3,027.8	17,292.8
Imports	452.0	2,527.7	447.1	2,523.4
Exports	−1.1	−6.2	−1.5	−8.5
Stock change	9.8	54.8	−18.1	−102.2
Losses and transfers for use as crude	−8.4	−47.0	−8.1	−45.8
Total	3,300.8	18,459.0	3,447.2	19,659.7
Petroleum input runs to stills:				
Crude oil [2]	3,300.8	18,459.0	3,447.2	19,659.7
Transfers in natural gas liquids [3]	225.7	1,042.7	235.6	1,088.5
Total	3,526.5	19,501.7	3,682.8	20,748.2
Output:				
Refined products	3,526.5	19,501.7	3,682.8	20,748.2
Unfinished oils, net	32.1	201.8	34.6	217.5
Overage or loss	80.2	443.5	89.5	504.2
Total	3,638.8	20,147.0	3,806.9	21,469.9
Imports [4]	448.7	2,821.0	492.0	3,093.2
Exports	−67.2	−371.7	−70.9	−392.1
Stock change, including natural gas liquids	−6.8	−37.6	−20.0	−900.7
Transfers in, natural gas liquids [3] [5]	215.9	834.1	233.1	1,289.0
Losses, gains, and unaccounted for	−27.4	−151.5	−30.3	−167.6
Total	4,202.0	23,241.3	4,410.8	24,391.7
Demand by major consuming sectors:				
Fuel and power:				
Household and commercial	843.8	4,744.2	860.7	4,833.2
Industrial	475.0	2,825.5	481.3	2,863.8
Transportation [6]	2,271.9	12,179.4	2,384.2	12,785.3
Electricity generation utilities	118.6	744.0	144.2	905.0
Other, not specified	77.3	457.1	86.1	507.0
Total	3,786.6	20,950.2	3,956.5	21,894.3
Raw material: [7]				
Petrochemical feedstock offtake	185.3	830.7	212.7	965.9
Other nonfuel use	214.3	1,372.9	224.7	1,439.8
Total	399.6	2,203.6	437.4	2,405.7
Miscellaneous and unaccounted for	15.8	87.5	16.9	91.7
Grand total	4,202.0	23,241.3	4,410.8	24,391.7

p Preliminary.

[1] Supply and demand for crude oil and petroleum products. Petroleum products include products refined and processed from crude oil, including still gas and liquefied refinery gas; also natural gas liquids transferred from natural gas.

[2] Btu value for crude oil for each year shown is based on average British thermal unit value of total output of petroleum products (including refinery fuel and losses) adjusted to exclude natural gas liquids inputs and their implicitly derived values. Value for net imports of crude is based on the average value of crude runs to stills.

[3] Btu values for natural gas liquids for each year shown are implicitly derived from weighted averages of major natural gas liquids, with natural gasoline and associated product converted at 110,000 Btu per gallon and liquefied petroleum gases at 95,500 Btu per gallon.

[4] Btu value for imported refined products for each year shown is based on the value of residual fuel and unfinished oils. The value for exports of refined products is based on the average value of domestic petroleum products output.

[5] Includes natural gas liquids other than those channeled into refinery input as follows: Petrochemical feedstocks, direct uses for fuel and power, and other uses.

[6] Includes bunkers and military transportation.

[7] Includes some fuel and power use by raw materials industries.

Table 13.—Petroleum consumption by major products [1] and by major consuming sectors

	Household and commercial		Industrial		Transportation [2]		Electricity generation, utilities		Miscellaneous and unaccounted for		Total domestic product demand	
	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu	Million bbl	Trillion Btu
1965												
Fuel and power:												
Liquefied gases	127.3	510.6	19.1	76.6	28.4	113.9	-----	-----	2.0	8.0	176.8	709.1
Jet fuels (kerosine and naphtha types)	-----	-----	-----	-----	219.6	1,214.3	-----	-----	-----	-----	219.6	1,214.3
Gasoline	-----	-----	-----	-----	1,720.2	9,027.6	-----	-----	-----	-----	1,720.2	9,027.6
Special naphtha	-----	-----	29.8	156.4	-----	-----	-----	-----	-----	-----	29.8	156.4
Kerosine	79.2	449.1	18.4	104.3	-----	-----	-----	-----	-----	-----	97.6	553.4
Distillate fuel	481.0	2,801.8	52.9	308.1	185.7	1,081.7	3.7	21.6	52.5	305.8	775.8	4,519.0
Residual fuel	156.3	982.7	175.0	1,100.2	118.0	741.9	114.9	722.4	22.8	143.3	587.0	3,690.5
Still gas	-----	-----	135.3	811.8	-----	-----	-----	-----	-----	-----	135.3	811.8
Petroleum coke	-----	-----	44.5	268.1	-----	-----	-----	-----	-----	-----	44.5	268.1
Total	843.8	4,744.2	475.0	2,825.5	2,271.9	12,179.4	118.6	744.0	77.3	457.1	3,786.6	20,950.2
Raw material: [3]												
Lubes and waxes	-----	-----	51.0	307.0	-----	-----	-----	-----	-----	-----	51.0	307.0
Petroleum coke [4]	-----	-----	29.1	175.3	-----	-----	-----	-----	-----	-----	29.1	175.3
Asphalt and road oil	134.2	890.6	-----	-----	-----	-----	-----	-----	-----	-----	134.2	890.6
Petrochemical feedstock offtake: [5]												
Liquefied refinery gas	-----	-----	50.5	202.6	-----	-----	-----	-----	-----	-----	50.5	202.6
Liquefied petroleum gas [6]	-----	-----	80.0	320.9	-----	-----	-----	-----	-----	-----	80.0	320.9
Naphtha (−400 degrees)	-----	-----	23.5	123.3	-----	-----	-----	-----	-----	-----	23.5	123.3
Still gas	-----	-----	8.9	53.4	-----	-----	-----	-----	-----	-----	8.9	53.4
Miscellaneous (+400 degrees)	-----	-----	22.4	130.5	-----	-----	-----	-----	-----	-----	22.4	130.5
Total	134.2	890.6	265.4	1,313.0	-----	-----	-----	-----	-----	-----	399.6	2,203.6
Miscellaneous and unaccounted for	-----	-----	-----	-----	-----	-----	-----	-----	15.8	87.5	15.8	87.5
Total domestic product demand	978.0	5,634.8	740.4	4,138.5	2,271.9	12,179.4	118.6	744.0	93.1	544.6	4,202.0	23,241.3
1966 p												
Fuel and power:												
Liquefied gases	135.3	542.7	18.0	72.2	28.9	115.9	-----	-----	2.7	10.8	184.9	741.6
Jet fuel (kerosine and naphtha types)	-----	-----	-----	-----	244.4	1,353.2	-----	-----	-----	-----	244.4	1,353.2
Gasoline	-----	-----	-----	-----	1,793.5	9,412.3	-----	-----	-----	-----	1,793.5	9,412.3
Special naphtha	-----	-----	30.3	159.0	-----	-----	-----	-----	-----	-----	30.3	159.0
Kerosine	79.7	451.9	20.8	117.9	-----	-----	-----	-----	.9	5.1	101.4	574.9
Distillate fuel	478.2	2,785.5	57.6	335.5	198.1	1,153.9	3.6	21.0	59.7	347.8	797.2	4,643.7
Residual fuel	167.5	1,053.1	176.2	1,107.8	119.3	750.0	140.6	884.0	22.8	143.3	626.4	3,938.2
Still gas	-----	-----	135.5	813.0	-----	-----	-----	-----	-----	-----	135.5	813.0
Petroleum coke	-----	-----	42.9	258.4	-----	-----	-----	-----	-----	-----	42.9	258.4
Total	860.7	4,833.2	481.3	2,863.8	2,384.2	12,785.3	144.2	905.0	86.1	507.0	3,956.5	21,894.3

Raw material: [3]												
Lubes and waxes	-----	-----	52.9	318.6	-----	-----	-----	-----	-----	-----	52.9	318.6
Petroleum coke [4]	-----	-----	30.8	185.5	-----	-----	-----	-----	-----	-----	30.8	185.5
Asphalt and road oil	141.0	935.7	-----	-----	-----	-----	-----	-----	-----	-----	141.0	935.7
Petrochemical feedstock offtake: [5]												
Liquefied refinery gas	-----	-----	46.8	187.7	-----	-----	-----	-----	-----	-----	46.8	187.7
Liquefied petroleum gas [6]	-----	-----	92.0	369.0	-----	-----	-----	-----	-----	-----	92.0	369.0
Naphtha (−400 degrees)	-----	-----	39.9	209.4	-----	-----	-----	-----	-----	-----	39.9	209.4
Still gas	-----	-----	10.1	60.6	-----	-----	-----	-----	-----	-----	10.1	60.6
Miscellaneous (+400 degrees)	-----	-----	23.9	139.2	-----	-----	-----	-----	-----	-----	23.9	139.2
Total	141.0	935.7	296.4	1,470.0	-----	-----	-----	-----	-----	-----	437.4	2,405.7
Miscellaneous and unaccounted for	-----	-----	-----	-----	-----	-----	-----	-----	16.9	91.7	16.9	91.7
Total domestic product demand	1,001.7	5,768.9	777.7	4,333.8	2,384.2	12,785.3	144.2	905.0	103.0	598.7	4,410.8	24,391.7

[p] Preliminary.

[1] Includes liquefied refinery gas and natural gas liquids.

[2] Includes bunkers and military transportation.

[3] Includes some fuel and power use by raw material industries.

[4] Includes portions of petroleum coke estimated to be consumed in nonfuel uses.

[5] Partly estimated.

[6] Includes LP gas for synthetic rubber.

Table 14.—Electrical energy sales to ultimate consumers

(Million kilowatt-hours)

Region	[1] 1962			[1] 1963		
	Total consumption	Residential	Industrial and commercial	Total consumption	Residential	Industrial and commercial
New England	30,558	10,738	18,655	32,086	11,263	19,596
Middle Atlantic	119,026	32,051	78,368	126,287	33,978	83,466
East North Central	162,756	44,046	112,397	172,816	45,914	120,037
West North Central	51,257	20,384	28,954	54,005	20,985	31,076
South Atlantic	102,766	34,915	63,918	110,782	37,653	68,885
East South Central	92,624	21,172	70,288	98,883	23,061	74,580
West South Central	68,930	20,412	45,069	76,946	22,969	49,993
Mountain	35,897	9,192	25,080	38,225	9,985	26,573
Pacific	109,855	32,607	73,815	118,187	34,920	79,140
Alaska and Hawaii	2,419	897	1,467	2,594	964	1,569
Total United States	776,088	226,414	518,011	830,811	241,692	554,915
	[1] 1964			[1] 1965		
New England	34,207	12,013	20,889	36,984	12,813	22,806
Middle Atlantic	135,255	36,152	89,898	145,248	38,850	96,783
East North Central	182,871	49,058	126,920	193,539	52,544	133,919
West North Central	57,500	22,570	32,973	61,335	23,864	35,458
South Atlantic	120,891	41,482	75,004	132,883	45,178	82,932
East South Central	102,776	25,489	75,988	106,314	26,811	78,118
West South Central	83,938	25,100	54,574	92,586	27,396	60,602
Mountain	41,045	10,957	28,332	43,086	11,445	29,913
Pacific	129,026	38,150	86,576	138,376	40,939	93,085
Alaska and Hawaii	2,847	1,039	1,741	3,063	1,130	1,861
Total United States	890,356	262,010	592,895	953,414	280,970	635,477

[1] Rural included in all three classes.

Source: Edison Electric Institute. Statistical Yearbook of the Electric Utility Industry. Annually 1962 through 1965.

Table 15.—Net supply of principal minerals, by components [1]

(Thousand short tons of mineral content, unless otherwise stated)

Commodity, and mineral content measured	Total net supply			Components as percent of total, before subtracting exports							
				Mine shipments		Old scrap		Imports		Exports	
	1965	1966	Percent increase	1965	1966	1965	1966	1965	1966	1965	1966
Ferrous metals:											
Iron ore	98,209	102,059	4	52	53	-----	-----	48	47	7	7
Pig iron	89,067	92,462	4	99	99	-----	-----	1	1	-----	----
Steel ingot	130,972	133,935	2	100	100	-----	-----	-----	-----	1	1
Chromite (Cr_2O_3)	682	754	11	-----	-----	-----	-----	100	100	-----	10
Cobalt	8	10	25	W	4	1	-----	99	96	-----	----
Manganese	1,244	1,380	11	4	13	-----	-----	96	87	2	1
Molybdenum	27	37	37	100	100	-----	-----	-----	-----	32	30
Nickel	187	265	42	9	43	6	6	85	51	3	4
Tungsten	6	11	83	67	77	-----	-----	33	23	-----	----
Other metals:											
Aluminum	3,228	3,780	7	78	80	4	3	18	17	9	8
Antimony	42	47	15	7	5	58	52	35	43	-----	-----
Beryl ore (BeO) tons	857	236	−72	W	W	-----	-----	100	100	-----	-----
Cadmium	6	7	17	28	29	-----	-----	72	71	1	3
Copper	2,236	2,556	14	69	66	23	19	8	15	15	10
Lead	1,258	1,316	5	27	30	45	43	28	27	1	-----
Magnesium	82	104	27	84	84	13	13	3	3	18	13
Mercury 76-pound flasks	74,453	68,639	−8	24	32	56	23	20	45	10	1
Platinum-group thousand troy ounces	1,213	1,704	40	3	20	8	5	89	75	8	11
Tin thousand long tons	79	75	−5	27	21	18	20	55	59	3	4
Titanium concentrate (TiO_2):											
Ilmenite and slag	606	577	−5	82	78	-----	-----	18	22	-----	-----
Rutile	142	135	−5	W	W	-----	100	100	-----	1	10
Uranium concentrate (U_3O_8)	13	12	−12	80	82	-----	-----	20	18	-----	-----
Zinc	1,468	1,389	−5	56	45	6	6	38	49	-----	-----
Nonmetals:											
Asbestos	795	805	1	14	15	-----	-----	86	85	5	6
Barite, crude	1,564	1,646	5	54	58	-----	-----	46	42	-----	-----
Bromine	137	138	1	100	100	-----	-----	-----	-----	-----	-----
Clays	54,386	55,740	2	100	100	-----	-----	-----	-----	2	2
Fluorspar, finished	1,048	1,129	8	23	22	-----	-----	77	78	1	1
Gypsum	15,918	15,008	−6	63	64	-----	-----	37	36	-----	-----
Mica (except scrap)	7	5	−29	5	-----	-----	-----	95	100	5	10
Phosphate rock (P_2O_5)	6,868	9,368	36	99	100	-----	-----	1	-----	25	23
Potash (K_2O)	3,391	3,999	18	73	68	-----	-----	27	32	16	13
Salt, common	36,409	38,280	5	94	94	-----	-----	6	6	2	2
Sand and gravel million tons	909	935	3	100	100	-----	-----	-----	-----	-----	-----
Stone, crushed million tons	729	813	12	100	100	-----	-----	-----	-----	-----	-----
Sulfur, all forms	8,071	9,468	17	83	85	-----	-----	17	15	27	22
Talc and allied minerals	814	846	4	98	98	-----	-----	2	2	8	8

W Withheld to avoid disclosing individual company data. Figure is not included in net and gross supply.

[1] Mine shipments include stockpile disposals. Components are added except exports, which are subtracted. 1965 data are revised.

Table 16.—Shipments, net new orders, and yearend unfilled orders for selected mineral processing industries

(Millions)

Year and month	Shipments [1]			Net new orders [1]			Unfilled orders at end of period		
	Primary metals	Blast furnaces	All other primary metals [2]	Primary metals	Blast furnaces	All other primary metals [2]	Primary metals	Blast furnaces	All other primary metals [2]
1962	$34,016	$18,264	$15,752	$32,619	$16,790	$15,829	$3,761	$2,057	$1,704
1963	35,325	19,033	16,292	35,508	19,104	16,404	3,930	2,120	1,810
1964	38,832	21,236	17,596	41,308	23,303	18,005	6,559	4,311	2,248
1965	41,910	22,916	18,994	41,017	21,378	19,639	5,646	2,730	2,916
1966	45,651	23,707	21,944	46,879	24,285	22,594	6,909	3,305	3,604
1966:									
January	3,499	1,741	1,758	3,603	1,776	1,827	5,750	2,765	2,985
February	3,643	1,843	1,800	3,994	2,141	1,853	6,102	3,063	3,039
March	3,726	1,930	1,796	4,057	2,104	1,953	6,434	3,238	3,196
April	3,803	2,006	1,797	3,905	2,037	1,868	6,536	3,269	3,267
May	3,798	2,012	1,786	4,305	2,331	1,974	7,042	3,588	3,454
June	3,840	2,012	1,828	4,109	2,173	1,936	7,312	3,749	3,563
July	4,045	2,210	1,835	4,106	2,277	1,829	7,374	3,816	3,558
August	3,922	2,036	1,886	3,792	1,906	1,886	7,244	3,686	3,558
September	3,919	2,039	1,880	4,047	2,166	1,881	7,372	3,813	3,559
October	3,839	1,996	1,843	3,817	1,881	1,936	7,350	3,698	3,652
November	3,812	1,983	1,829	3,588	1,834	1,854	7,125	3,550	3,575
December	3,893	1,982	1,911	3,677	1,737	1,940	6,909	3,305	3,604

[1] Monthly figures are seasonally adjusted and do not add to totals.
[2] "All other primary metals" obtained by subtracting blast furnace from primary metals figures.

Source: U.S. Department of Commerce, Bureau of the Census. Manufacturers' Shipments. Inventories, and Orders: 1947–63. Revised, series M 3-1, October 1963, pp. 32–37, 44–48. U.S. Department of Commerce, Office of Business Economics. Survey of Current Business. V. 46, No. 3, March 1966, pp. S-5, S-6; v. 47, No. 3, March 1967, pp. S-5, S-6.

Table 17.—Value of selected minerals and mineral products imported and exported by the United States in 1966, by commodity groups and commodities [1]

(Thousands)

SITC code	Commodity	Imports	Exports
	Metals (crude and scrap):		
281	Iron ore and concentrates	$462,354	$92,157
282	Iron and steel scrap	10,883	176,951
283	Ores and concentrates of nonferrous base metals	407,921	70,777
284	Nonferrous metal scrap	60,766	80,805
286	Ores and concentrates of uranium and thorium	277	164
	Total	942,201	420,854
	Chemicals:		
	Inorganic chemicals:		
513	Elements, oxides, and halogen salts	151,094	171,674
514	Other inorganic chemicals	51,689	110,140
515	Radioactive and associated materials	43,805	57,842
521	Mineral tar, crude chemicals from coal, petroleum, and natural gas	10,988	26,755
	Total	257,576	366,411
	Metals (manufactured):		
671	Pig iron, spiegeleisen, sponge iron, iron and steel powders and shot, and ferroalloys	122,001	20,709
672	Ingots and other primary forms of iron or steel	35,292	61,743
673	Iron and steel bars, rods, angles, shapes, and sections	368,377	52,645
674	Universals, plates and sheets of iron or steel	494,173	142,284
675	Hoops and strips of iron or steel	29,761	25,459
676	Rails and railway track construction material of iron or steel	1,989	8,128
677	Iron and steel wire (excluding wire rod)	83,469	11,733
678	Tubes, pipes, and fittings of iron or steel	168,059	188,577
679	Iron and steel castings or forgings, unworked, not elsewhere specified	3,872	46,236
681	Silver, platinum, and other metals of the platinum group	83,526	21,267
682	Copper	657,477	307,062
683	Nickel	179,657	39,233
684	Aluminum	300,912	178,278
685	Lead	76,490	3,967
686	Zinc	76,845	5,841
687	Tin	154,457	7,807
688	Uranium and thorium and their alloys	1	135
689	Miscellaneous nonferrous base metals employed in metallurgy	67,797	40,164
	Total	2,904,155	1,161,268
	Minerals, nonmetallic (crude):		
271	Fertilizers, crude	15,283	86,873
273	Stone, sand and gravel	22,184	16,795
274	Sulfur and unroasted iron pyrites	33,609	81,955
275	Natural abrasives (including industrial diamonds)	70,856	25,183
276	Other crude minerals	142,962	77,992
	Total	284,894	288,798
	Mineral energy resources and related products:		
321	Coal, coke, and briquets (including peat)	15,223	493,251
331	Petroleum, crude and partly refined	1,202,849	9,878
332	Petroleum products, except chemicals	901,634	425,754
341	Gas, natural and manufactured	119,352	48,617
	Total	2,239,058	977,500
	Minerals, nonmetallic (manufactured):		
661	Lime, cement, and fabricated building materials, except glass and clay materials	39,326	14,436
662	Clay, construction materials, and refractory materials	34,765	54,279
663	Mineral manufactures, not elsewhere specified	21,533	67,122
	Total	95,624	135,837
	Grand total	6,723,508	3,350,668

[1] Data in this table are for the indicated SITC numbers only and, therefore, may not correspond to the figures classified by commodity in the "Statistical Summary" Chapter of this volume.

Source: U.S. Department of Commerce, Bureau of the Census, United States Imports for Consumption FT 125, December 1966, table 1. United States Exports, FT 410, December 1966, table 1.

Table 18.—Percentage distribution of exports of selected mineral fuels and related products by area of origin, 1966

SITC No. [1]	Group	North America [2]	South America	Europe	Asia	Africa	Oceania	Soviet bloc [3]	Undesignated region [4]
321	Coal, coke, etc.	32	6	43	17	(5)	(5)	2	(5)
331	Petroleum, crude, etc.	51	---	28	21	---	---	---	(5)
332	Petroleum products	23	12	26	28	6	4	(5)	1
341	Gas, natural, manufactured	90	(5)	10	(5)	(5)	(5)	---	(5)
521	Mineral tar and crude chemicals from coal, petroleum, natural gas	12	5	45	34	1	2	---	1

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[1] Standard International Trade Classification.
[2] Includes Trinidad and Netherlands Antilles.
[3] U.S.S.R., Bulgaria, East Germany, Albania, Czechoslovakia, Hungary, Poland, Rumania, China, North Korea, North Viet-Nam, and Yugoslavia.
[4] Special category exports.
[5] Less than ½ unit.

Source: U.S. Department of Commerce, Bureau of the Census, U.S. Exports, Commodity by Country, FT 410, December 1966.

Table 19.—Percentage distribution of imports of principal minerals and related products consumed by area of origin in 1966

SITC Code	Commodity	North America	South America	Europe	Asia	Africa	Oceania	Soviet bloc[1]
2713000	Phosphates, crude and apatite	87	---	3	---	10	---	---
2732100	Gypsum	99	---	1	(2)	---	---	---
2743000	Sulfur	100	---	(2)	---	---	---	---
2752400	Natural abrasives	3	---	80	14	3	(2)	---
2762220 2762240	Graphite natural	33	---	23	20	24	---	---
2762520 2762540	Magnesia, refractory, and caustic calcined and crude magnesite	1	---	57	41	---	1	---
2763000	Salt	88	---	5	(2)	7	---	---
2764010 2764020 2764030 2764040 2764050 2764060	Asbestos	84	(2)	1	(2)	15	(2)	(2)
2765210 2765230 2765250	Mica, including scrap	(2)	30	1	63	6	---	---
2765420	Fluorspar	73	---	26	(2)	1	---	---
2768300	Barite, crude	52	17	21	1	9	---	---
2768500	Talc	9	---	69	22	---	---	---
2810000	Iron ore and concentrates	59	35	(2)	(2)	6	(2)	---
2820000	Iron and steel scrap	72	---	26	1	(2)	1	---
2831110	Copper ores and concentrates	40	56	---	---	4	---	---
2833020 2833040	Bauxite	72	28	(2)	---	---	---	---
2834000	Lead ores and concentrates	44	18	---	---	4	34	---
2835000	Zinc ores and concentrates	78	14	2	---	6	(2)	---
2836000	Tin ores and concentrates	---	98	---	2	---	---	---
2837020 2837040	Manganese ores and concentrates	2	30	(2)	11	57	---	---
2839120 2839140 2839160	Chrome ore	---	---	---	30	49	---	21
2839200	Tungsten ores and concentrates	20	31	21	7	3	18	---
2839310	Tantalum, molybdenum, and vanadium ores and concentrates	·3	21	16	6	52	2	---
2839320 2839330	Titanium ores	2	---	(2)	(2)	(2)	98	---
2839340	Zirconium ores	2	1	(2)	(2)	(2)	97	---
2839810	Antimony ores and needles	15	40	2	(2)	42	1	---
2839820	Beryllium ores and concentrates	---	49	1	31	17	2	---
2839830	Columbium ores and concentrates	15	47	3	1	34	---	---
2840200	Copper waste and scrap	90	8	1	1	(2)	(2)	---
2840300	Nickel waste and scrap	58	(2)	39	---	1	2	---
2840400	Aluminum waste and scrap	63	2	27	3	---	(2)	5
2840500	Magnesium waste and scrap	35	---	59	4	1	1	---
2840600	Lead waste and scrap	95	(2)	3	---	---	2	---
2840700	Zinc waste and scrap	100	---	---	---	---	---	---
2840900	Tin waste and scrap	20	65	15	---	---	---	---
2850000	Platinum group metals, ores, concentrates and waste	43	14	16	8	8	11	---
2860000	Thorium ores and concentrates	---	---	---	33	3	64	---
3210000	Coal, coke, etc.	91	---	8	---	---	(2)	1
3310000	Petroleum, crude, etc.	32	41	(2)	21	6	---	---
3320000	Petroleum products	47	49	3	1	(2)	---	(2)
3410000	Gas, natural, manufactured	100	(2)	(2)	(2)	---	---	---
5132500	Mercury, including waste and scrap	19	1	76	4	---	---	---
5136530 5136550	Alumina	21	47	4	12	12	4	---
5210000	Mineral tar and crude chemicals from coal, petroleum, natural gas	9	---	85	2	---	3	1

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[1] U.S.S.R., Bulgaria, East Germany, Albania, Czechoslovakia, Hungary, Poland, Rumania, China, North Korea, North Viet-Nam.

[2] Less than ½ unit.

Source: U.S. Department of Commerce, Bureau of the Census, U.S. Imports of Merchandise for Consumption. FT 125, December 1966, table 2.

Table 20.—Physical stocks of mineral energy resources and related products at yearend

(Producers' stocks, unless otherwise indicated)

Fuel	1962	1963	1964	1965	p 1966
Coal and related products: [1]					
Bituminous and lignite [2] short tons	72,577,910	73,028,665	77,939,559	79,739,516	76,808,024
Coke do	3,906,811	2,884,931	1,971,892	2,702,946	3,078,768
Petroleum and related products:					
Carbon black thousand pounds	293,434	254,216	231,171	237,704	233,145
Crude petroleum and petroleum products thousand barrels	834,296	835,559	839,235	836,344	874,465
Crude petroleum do	252,011	237,361	230,057	220,289	238,391
Natural gas liquids do	31,385	33,747	35,679	35,867	40,423
Gasoline do	183,701	186,860	193,633	183,058	194,177
Special naphthas do	4,982	4,077	5,879	6,209	5,583
Distillate fuel oil do	143,961	156,677	155,846	155,407	154,096
Residual fuel oil do	49,775	47,538	40,403	56,214	61,196
Petroleum asphalt do	14,252	14,354	14,231	16,178	17,309
Other refined products do	154,229	154,945	163,507	163,122	163,290
Natural gas [3] billion cubic feet	2,504	2,745	2,313	2,458	2,506

p Preliminary.

[1] Series on anthracite stocks in ground storage has been discontined.

[2] Stocks at industrial, consumer, and retail yards and on upper lake docks.

[3] American Gas Association.

Table 21.—Index of stocks of mineral manufacturers, consumers, and dealers at yearend

(1957–59=100)

Yearend	Metals and nonmetals [1]	Metals					Nonmetals [1]
		Total	Iron	Other ferrous	Base nonferrous	Other nonferrous	
1962	100	99	98	r 89	101	r 93	128
1963	r 96	r 94	91	85	r 96	96	128
1964	r 90	88	85	72	88	97	130
1965	r 90	89	84	72	92	r 99	116
1966	100	99	90	81	106	106	133

r Revised.

[1] Excludes fuels.

Table 22.—Index of stocks of crude minerals at mines or in hands of primary producers at yearend

(1957–59=100)

Yearend	Metals and nonmetals [1]	Metals				Nonmetals [1]
		Total	Iron ore	Other ferrous	Nonferrous	
1962	[r] 122	147	165	73	149	[r] 111
1963	[r] 121	141	157	69	153	[r] 112
1964	[r] 113	133	153	44	147	[r] 104
1965	110	149	180	41	128	[r] 92
1966	107	147	171	34	172	88

[r] Revised.

[1] Excludes fuels.

Table 23.—Seasonally adjusted book value of product inventories for selected mineral processing industries

(Million dollars)

End of year or month	Petroleum and coal products	Stone, clay and glass products	Primary metals		
			Blast furnace and steel mills	Other primary metals	Total
1962: December	$1,809	$1,492	$3,528	$2,345	$5,873
1963: December	1,736	1,544	3,533	2,385	5,918
1964: December	1,745	1,587	3,707	2,404	6,111
1965: December	1,756	1,626	3,678	2,671	6,349
1966:					
December	1,869	1,746	4,043	3,066	7,109
January	1,787	1,638	3,760	2,678	6,438
February	1,816	1,643	3,786	2,700	6,486
March	1,809	1,652	3,813	2,740	6,553
April	1,802	1,662	3,817	2,777	6,594
May	1,795	1,688	3,887	2,813	6,700
June	1,776	1,697	3,917	2,853	6,770
July	1,804	1,692	3,911	2,876	6,787
August	1,829	1,698	3,966	2,936	6,902
September	1,813	1,675	3,993	2,915	6,908
October	1,819	1,703	4,048	2,923	6,971
November	1,835	1,722	4,077	2,980	7,057

Source: U.S. Department of Commerce, Bureau of the Census. Manufactures' Shipments, Inventories, and Orders: 1947–63. Revised, Series M3–1, p. 63. U.S. Department of Commerce, Office of Business Economics. Survey of Current Business. V. 45, No. 3, March 1965, p. S–5; v. 46, No. 3, March 1966, p. S–5; v. 47, No. 3 March 1967, p. S–5.

Table 24.—Total employment in selected mineral industries

(Thousands)

	1962	1963	1964	1965	1966
Mining:					
Metal:					
Iron	25.2	24.1	[r] 24.6	[r] 25.7	25.5
Copper	28.5	27.7	27.1	[r] 30.1	32.3
Total [1]	82.3	79.7	[r] 79.5	[r] 83.6	85.9
Nonmetal mining and quarrying	118.1	117.0	[r] 116.2	[r] 118.3	120.6
Fuels:					
Bituminous	140.0	137.7	[r] 136.1	[r] 132.0	130.6
Other coal	11.9	11.3	[r] 11.2	[r] 9.8	8.4
Crude petroleum and natural gas fields	167.6	163.8	[r] 160.4	[r] 156.7	152.6
Oil and gas field services	130.4	125.4	[r] 130.7	[r] 131.4	130.0
Total	449.9	438.2	[r] 438.4	[r] 429.9	421.6
Total mining	650.3	634.9	634.1	631.8	628.1
Manufacturing:					
Minerals:					
Fertilizers complete and mixing only	36.8	38.2	[r] 38.0	[r] 39.4	39.9
Cement, hydraulic	39.8	38.9	[r] 38.6	[r] 38.0	37.6
Blast furnaces, steel works, and rolling mills	522.3	520.0	[r] 556.7	[r] 580.4	570.8
Nonferrous smelting and refining	68.1	68.4	[r] 69.7	[r] 73.8	77.6
Fuels:					
Petroleum refining	160.5	153.7	[r] 149.6	[r] 147.5	147.2
Other petroleum and coal products	34.7	35.1	[r] 34.2	[r] 34.5	35.6
Total [2]	195.2	188.8	[r] 183.8	[r] 182.0	182.8
Total manufacturing	862.2	854.3	886.8	913.6	908.7

[r] Revised.

[1] Includes other metal mining not shown separately.

[2] Standard Industrial Classification Industry 295, paving and roofing materials included in total.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Employment and Earnings Statistics for the United States 1909–66, Bul. 1312–4, October 1966, 788 pp., and monthly issues September 1966 through March 1967.

Table 25.—Average hours and gross earnings of production and related workers in the mineral and mineral fuels industries

	1962	1963	1964	1965	1966
Mining:					
Metal:					
Iron ores:					
Weekly earnings	$122.19	$120.04	$125.83	$129.24	$138.09
Weekly hours	39.8	39.1	40.2	40.9	42.1
Hourly earnings	$3.07	$3.07	$3.13	$3.16	$3.28
Copper ores:					
Weekly earnings	$120.70	$124.56	$130.42	$136.71	$140.07
Weekly hours	42.8	43.1	42.9	43.4	43.5
Hourly earnings	$2.82	$2.89	$3.04	$3.15	$3.22
Total [1]:					
Weekly earnings	$117.45	$118.66	$122.54	[r] $127.30	$133.77
Weekly hours	41.5	41.2	41.4	41.6	42.2
Hourly earnings	$2.83	$2.88	$2.96	[r] $3.06	$3.17
Nonmetallic mining and quarrying:					
Weekly earnings	$105.43	$108.38	$111.85	$117.45	$122.93
Weekly hours	44.3	44.6	45.1	45.7	45.7
Hourly earnings	$2.38	$2.43	$2.48	[r] $2.57	$2.69

See footnotes at end of table.

Table 25.—Average hours and gross earnings of production and related workers in the mineral and mineral fuels industries—Continued

	1962	1963	1964	1965	1966
Mining—Continued					
Fuels:					
Total coal mining:					
Weekly earnings	$113.06	$119.89	$126.88	[r] $137.45	[2] $145.86
Weekly hours	[2] 36.9	[2] 38.8	[2] 39.0	[2] 39.9	[2] 40.3
Hourly earnings	[2] $3.09	[2] $3.12	[2] $3.26	[2] $3.45	[2] $3.61
Bituminous coal:					
Weekly earnings	[2] $114.46	[2] $121.43	[2] $128.91	[2] $140.23	[2] $148.45
Weekly hours	[2] 37.0	[2] 38.9	[2] 39.2	[2] 40.2	[2] 40.6
Hourly earnings	[2] $3.12	[2] $3.15	[2] $3.30	[2] $3.49	[2] $3.65
Crude petroleum and natural gas:					
Weekly earnings	$109.20	$112.52	[r] $112.63	[r] $116.18	$122.26
Weekly hours	42.0	42.3	42.5	[r] 42.4	42.6
Hourly earnings	$2.60	$2.66	[r] $2.65	$2.74	$2.87
Total fuels [3]:					
Weekly earnings	$110.69	$115.40	[r] $118.15	[r] $124.26	$131.42
Weekly hours	40.0	40.9	[r] 41.1	[r] 41.5	41.8
Hourly earnings	$2.79	$2.84	$2.89	$3.01	$3.16
Total mining [4]:					
Weekly earnings	$110.33	$112.55	$116.19	[r] $121.54	$127.45
Weekly hours	43.2	43.2	43.6	44.0	44.2
Hourly earnings	$2.56	$2.61	$2.67	[r] $2.77	$2.89
Manufacturing:					
Fertilizers, complete and mixing only:					
Weekly earnings	$84.12	$90.67	$93.74	$96.57	$100.72
Weekly hours	42.7	43.8	43.4	43.5	43.6
Hourly earnings	$1.97	$2.07	$2.16	$2.22	$2.31
Cement, hydraulic:					
Weekly earnings	$112.75	$116.60	$121.30	$124.42	$132.61
Weekly hours	41.0	41.2	41.4	41.2	41.7
Hourly earnings	$2.75	$2.83	$2.93	$3.02	$3.18
Blast furnaces, steel and rolling mills:					
Weekly earnings	$128.31	$134.40	$140.15	$141.86	$145.71
Weekly hours	39.0	40.0	41.1	41.0	40.7
Hourly earnings	$3.29	$3.36	$3.41	$3.46	$3.58
Nonferrous smelting and refining:					
Weekly earnings	$114.95	$118.14	$120.22	$124.44	$129.98
Weekly hours	41.2	41.6	41.6	41.9	42.2
Hourly earnings	$2.79	$2.84	$2.89	$2.97	$3.08
Petroleum refining and related industries:					
Weekly earnings	$126.88	$131.77	[r] $133.76	$138.42	$144.58
Weekly hours	41.6	41.7	[r] 41.8	42.2	42.4
Hourly earnings	$3.05	$3.16	[r] $3.20	$3.28	$3.41
Petroleum refining:					
Weekly earnings	$131.43	$137.45	$139.52	$145.05	$151.56
Weekly hours	41.2	41.4	41.4	41.8	42.1
Hourly earnings	$3.19	$3.32	$3.37	$3.47	$3.60
Other petroleum and coal products:					
Weekly earnings	$107.75	$108.28	[r] $112.49	$115.90	$120.22
Weekly hours	43.1	42.8	[r] 43.6	43.9	43.4
Hourly earnings	$2.50	$2.53	[r] $2.58	$2.64	$2.77
Total manufacturing [4]:					
Weekly earnings	$124.03	$129.54	$134.43	$136.96	$141.72
Weekly hours	40.0	40.6	41.3	41.4	41.3
Hourly earnings	$3.12	$3.19	$3.25	$3.31	$3.43

[r] Revised.
[1] Includes other metal mining not shown separately.
[2] 11-month average.
[3] Revised weighted average using employment of production workers as weight.
[4] Weighted average of data computed using figures for production workers as weights.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Employment and Earnings for the United States, 1909–66, Bull. 1312–4, December 1966, 788 pp., and montly issues September 1966 through March 1967.

Table 26.—Average labor-turnover rates in selected mineral industries [1]

(Per thousand employees)

Rates and year	Manufacturing	Cement, hydraulic	Blast furnaces, steel and rolling mills	Nonferrous smelting and refining	Metal mining	Iron ore	Copper ore	Petroleum refining and related industries [2]	Petroleum refining	Coal mining
Total accession rate:										
1964	40	29	29	23	32	27	27	16	11	17
1965	43	26	23	25	32	27	28	18	12	17
1966	50	23	29	32	35	26	30	21	16	17
Total separation rate:										
1964	39	30	18	21	[r] 30	23	25	18	13	18
1965	[r] 41	27	30	22	31	25	25	19	13	19
1966	46	28	24	27	35	NA	26	21	16	18
Layoff rate:										
1964	17	20	5	7	7	13	3	7	4	9
1965	14	16	13	[r] 4	7	13	4	6	4	9
1966	12	13	5	3	7	15	2	6	5	6

Revised.
NA Not available.
[1] Monthly rates are available in Employment and Earnings as indicated in source.
[2] Standard Industrial Classification Industry 295, paving and roofing materials, included in total.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Employment and Earnings, V. 132, No 9, March 1967, table D-2. U. S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings Statistics for the United States 1909–65, Bull. 1312–4, October 1966.

Table 27.—Wages, salaries, and average annual earnings in the United States

	1964	[r] 1965	[p] 1966	Percent change 1964–65	Percent change 1965–66
Wages and salaries:					
All industries, total ......millions	[r] $333,683	$359,052	$394,620	7.6	9.9
Mining ......do	4,115	4,324	4,517	5.1	4.5
Manufacturing ......do	107,166	115,570	128,052	7.8	10.8
Average earnings per full-time employee:					
All industries, total	[r] $5,503	$5,710	$5,954	3.8	4.3
Mining	6,521	6,788	7,136	4.1	5.1
Manufacturing	6,196	6,389	6,647	3.1	4.0

[r] Revised. [p] Preliminary.

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business. V. 47, No. 7, July 1967, pp. 34–35.

Table 28.—Labor-productivity indexes for selected minerals

(1957–59=100)

Year	Copper, crude ore mined per—			Iron, crude ore mined per—		
	Employee	Production worker	Production worker man-hour	Employee	Production worker	Production worker man-hour
1961 [r]	121.5	116.9	110.4	135.2	135.7	132.5
1962 [r]	131.6	125.1	120.3	151.2	150.6	142.3
1963 [r]	134.1	125.3	119.7	168.6	163.5	157.3
1964	145.0	136.7	131.1	187.5	180.8	169.1
1965 [p]	146.0	136.1	129.1	184.4	178.7	164.3
	Copper, recoverable metal mined per—			Iron, usable ore mined per—		
	Employee	Production worker	Production worker man-hour	Employee	Production worker	Production worker man-hour
1961 [r]	118.6	114.1	107.7	112.5	112.9	110.2
1962 [r]	128.2	121.9	117.2	120.8	120.3	113.7
1963 [r]	131.7	123.0	117.5	129.3	125.4	120.6
1964	138.4	130.5	125.2	145.5	140.3	131.2
1965 [p]	133.8	124.8	118.3	144.9	140.4	129.1
	Petroleum refined per—			Bituminous coal and lignite mined per—		
	Employee	Production worker	Production worker man-hour	Employee	Production worker	Production worker man-hour
1961 [r]	123.9	126.2	125.3	123.8	125.5	122.8
1962 [r]	135.2	138.5	137.3	135.9	136.2	129.6
1963 [r]	142.9	145.0	146.8	149.5	148.4	134.1
1964	153.2	156.2	154.0	160.5	159.6	142.7
1965 [p]	NA	NA	NA	173.3	173.6	151.3

[r] Revised. [p] Preliminary. NA Not available.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Index of Output per Man-hour. Selected Industries. BLS Bull. No. 1537, October 1966, 92 pp.

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Table 29.—Index of average unit mine value of minerals produced [1]

(1957–59=100)

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Metals:															
Ferrous	73.7	81.2	83.2	85.8	92.9	98.3	100.6	102.2	102.2	105.3	104.8	107.6	110.9	r 112.1	112.2
Nonferrous:															
Base	102.7	100.7	102.7	126.3	142.3	104.9	91.0	104.0	109.3	101.1	102.3	103.7	112.5	123.2	124.8
Monetary	93.4	94.4	95.7	94.7	94.5	98.8	100.6	100.8	101.5	103.9	111.8	120.0	120.5	120.5	124.7
Other	79.0	86.5	95.3	104.5	103.0	103.6	101.8	95.6	91.2	88.9	92.7	95.8	98.6	r 99.5	92.3
Total	100.2	99.3	101.7	119.6	130.5	104.1	94.4	101.8	104.4	98.4	100.8	103.2	109.7	r 117.7	117.7
Total metals	85.4	89.5	91.8	101.9	111.0	101.2	97.5	102.0	103.3	101.8	102.8	105.4	110.3	r 114.9	114.9
Nonmetals:															
Construction	91.2	93.1	92.8	93.5	97.3	99.0	99.3	101.6	103.2	102.4	102.4	101.7	101.9	r 101.5	101.5
Chemical	81.8	90.0	94.2	98.0	99.2	101.0	99.7	98.9	100.0	101.4	99.4	98.1	101.2	r 104.5	105.3
Other	86.9	85.8	87.8	89.4	96.6	101.0	99.3	99.5	100.8	100.4	100.0	102.8	103.5	r 103.3	103.2
Total	88.2	91.6	92.6	94.2	97.7	99.4	99.4	101.1	102.5	102.1	101.8	101.2	101.9	r 102.1	102.3
Fuels:															
Coal	100.9	101.6	92.7	91.6	97.8	103.5	99.3	97.1	95.1	93.3	91.3	90.1	91.4	90.8	92.3
Crude oil and natural gas [2]	82.2	87.9	91.6	91.5	92.6	101.6	100.1	98.3	99.1	100.7	101.5	101.6	100.8	100.4	101.4
Total	88.2	92.3	92.0	91.5	94.1	101.6	99.8	98.1	98.3	98.7	99.0	98.4	98.0	97.8	99.3
Total all minerals	88.9	91.9	92.1	92.9	96.4	101.1	99.5	99.1	99.7	99.7	100.0	99.6	99.9	r 100.3	101.3

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[1] The 1957–59 weighted segment of the index has been spliced to the 1947–49 weighted series. The splicing period was 1952–56. Periodic reweighting and revising of the index is necessary because of changes over time in the components and of their relative importance. Splicing the segments accounts for these changes and maintains comparability in the historical series.

[2] Does not cover isopentane, LP gases, and other natural gas liquids.

Table 30.—Index of implicit unit value of minerals produced [1]

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966 p
Metals:															
Ferrous	74.9	82.3	86.1	88.1	94.2	98.3	100.5	102.2	102.6	105.7	104.8	108.8	112.2	113.7	114.7
Nonferrous:															
Base	100.0	99.4	101.0	124.5	140.7	104.9	90.7	104.3	109.6	102.6	103.5	104.4	113.2	123.5	124.2
Monetary	93.8	99.8	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.8	107.7	116.0	116.9	116.2	116.4
Other	81.3	85.8	91.3	98.6	101.6	103.9	102.0	95.5	90.9	87.5	92.4	95.7	97.3	97.6	93.5
Total	81.4	80.8	78.4	72.4	80.7	105.6	93.7	100.2	103.9	99.1	102.0	104.8	112.1	121.9	122.3
Total metals	87.0	90.3	93.3	103.2	114.6	100.7	97.1	102.0	103.5	102.8	104.7	101.2	112.8	119.4	119.4
Nonmetals:															
Construction	89.4	93.7	93.4	91.2	98.1	98.9	99.4	101.6	103.1	102.2	102.4	101.5	101.8	100.6	101.7
Chemical	80.7	87.7	93.7	98.2	99.2	101.0	100.2	98.9	100.1	101.9	99.7	98.8	101.6	102.8	104.6
Other	81.0	81.3	86.5	87.2	96.1	101.1	99.3	99.6	100.7	100.3	100.6	104.7	105.2	103.7	104.1
Total	86.4	91.0	92.7	94.4	97.9	99.4	99.5	101.0	102.5	102.1	101.8	101.2	101.9	101.1	102.5
Fuels:															
Coal	100.8	101.1	92.7	91.5	97.6	103.3	99.1	96.9	95.0	93.0	91.1	89.7	90.9	90.6	92.7
Crude oil and natural gas	81.2	87.3	91.0	91.2	92.2	101.5	100.2	98.3	99.3	101.0	102.2	102.4	101.6	101.5	102.4
Total	85.9	90.6	91.5	91.8	93.7	101.7	99.1	98.4	98.9	99.1	99.7	99.2	98.5	98.7	100.2
Total all minerals	85.9	90.6	92.0	93.8	96.9	101.3	99.5	99.1	100.2	100.2	100.6	100.3	100.7	101.3	102.6

p Preliminary.

[1] The index of implicit unit value, obtained by dividing an index of value by the index of physical volume, has been revised for the period 1952–65 as a result of reweighting ans splicing the index of volume and splicing the index of value.

Table 31.—Price indexes for selected metals, minerals, and fuels

(1957–59=100 unless otherwise indicated)

Commodity	Annual average 1965	Annual average 1966	Percent change from 1965
Metals and metal products	105.7	108.3	+2.5
Iron and steel	101.4	102.8	+0.9
Iron ore	90.5	90.5	----
Iron and steel scrap	81.6	77.3	−5.3
Semifinished steel products	103.3	103.7	+0.4
Finished steel products	103.3	104.7	+1.4
Foundry and forge shop products	106.1	108.0	+1.8
Pig iron and ferroalloys	80.2	80.2	----
Nonferrous metals	115.2	120.9	+4.9
Primary metal refinery shapes	119.6	118.8	−0.7
Aluminum, ingot	97.7	97.7	----
Copper, ingot, electrolytic	121.2	123.2	+1.7
Lead, pig, common	123.2	116.1	−5.8
Zinc, slab, prime western	130.0	130.0	----
Nonferrous scrap	140.3	162.7	+16.0
Nonmetallic mineral products	101.7	102.6	+0.9
Concrete ingredients	103.2	103.9	+0.7
Sand, gravel, and crushed stone	105.5	106.6	+1.0
Concrete products	101.5	103.0	+1.5
Structural clay products	105.1	106.4	+1.2
Gypsum products	104.0	102.4	−1.5
Other nonmetallic minerals	101.3	101.7	+0.4
Building lime	113.1	114.6	+1.3
Insulation materials	88.3	89.8	+1.7
Asbestos cement shingles	113.3	115.1	+1.6
Bituminous binders [1]	99.9	99.2	−0.7
Fertilizer materials	103.5	104.4	+0.9
Nitrogenates	96.8	96.9	+0.1
Phosphates	116.0	120.9	+4.2
Phosphate rock	138.1	145.1	+5.1
Potash	117.8	112.5	−4.5
Muriate, domestic	115.0	109.3	−5.0
Sulfate	121.0	119.2	−1.5
Fuels and related products and power	98.9	101.3	+2.4
Coal	96.5	98.6	+2.2
Anthracite	93.7	92.5	−1.3
Bituminous	96.8	99.3	+2.6
Coke	107.3	109.8	+2.3
Gas fuels [1]	124.1	129.3	+4.2
Electric power [1]	100.8	100.3	−0.5
Petroleum products refined	95.9	99.5	+3.8
Crude petroleum [2]	[r] 96.8	97.5	+0.7
All commodities other than farm and food	102.5	104.7	+2.1
All commodities	102.5	105.9	+3.3

[r] Revised.

[1] January 1958=100.

[2] Not included in the group "Fuels and related products and power."

Source: U.S. Department of Labor, Bureau of Labor Statistics. Wholeshale Prices and Price Indexes, January–February 1967, table 2B. Also monthly issues January–December, 1966, table 2.

Table 32.—Comparative mineral energy resource prices

Fuel	1965	1966
Bituminous coal: Average prices:		
Cost of coal at merchant coke ovens — dollars per net ton	9.65	9.81
Anthracite, average sales realization per net ton at preparation plants, excluding dredge coal:		
Chestnut — dollars	12.17	11.59
Pea — do	10.02	9.35
Buckwheat No. 1 — do	9.03	8.74
Petroleum and petroleum products:		
Crude petroleum, average price per barrel at well — do	2.86	2.88
Gasoline, average dealers net price (excluding taxes) of gasoline in 55 U.S. cities [1] — cents per gallon	15.38	15.83
Residual fuel oil:		
No. 6 fuel, average of high and low prices in Philadelphia [1] — dollars per barrel (refinery)	3.10	3.10
Bunker C, average price for all Gulf ports [1] — do	2.10	2.10
Distillate fuel oil:		
No. 2 distillate, average of high and low prices at Philadelphia [1] — cents per gallon (refinery)	9.53	10.02
No. 2 distillate, average price for all Gulf ports [1] — do	8.58	8.74
Natural gas:		
Average U.S. value at well — cents per thousand cubic feet	r 15.6	15.7
Average U.S. value at point of consumption — do	r 52.2	52.3

r Revised.

[1] Platt's Oil Price Handbook.

Table 33.—Cost of fuel in steam-electrical power generation

(Cents per million Btu)

Region	1963			1964			1965		
	Coal	Oil	Gas	Coal	Oil	Gas	Coal	Oil	Gas
New England	34.1	34.7	34.6	33.4	34.4	34.2	33.4	34.4	34.2
Middle Atlantic	27.2	32.1	33.3	26.0	31.7	33.5	26.2	32.3	33.8
East North Central	24.8	69.8	24.9	24.6	68.2	24.8	24.3	66.2	25.9
West North Central	26.4	50.1	23.8	26.0	50.4	24.3	26.2	50.8	24.2
South Atlantic	25.5	34.4	32.6	25.4	33.9	32.2	25.1	33.7	32.3
East South Central	20.0	47.5	24.5	19.3	50.1	24.6	18.9	62.8	23.8
West South Central	16.6	38.3	19.4	14.9	42.6	19.6	17.7	50.4	19.8
Mountain	20.4	27.4	27.7	19.2	25.7	26.6	19.3	26.2	27.1
Pacific	---	33.0	36.1	---	30.7	32.2	---	32.0	31.4
Average	25.0	33.5	25.9	24.6	32.6	25.3	24.4	33.1	25.0

Source: National Coal Association. Steam-Electric Plant Factors. Annually, 1963 through 1965.

Table 34.—Cost of electrical energy

(Cents per kilowatt-hour)

Region	1963			1964			1965		
	Total	Residential	Commercial and industrial	Total	Residential	Commercial and industrial	Total	Residential	Commercial and industrial
New England	2.5	3.1	2.1	2.4	3.0	2.0	2.4	3.0	2.0
Middle Atlantic	2.0	2.8	1.6	1.9	2.8	1.6	1.9	2.7	1.6
East North Central	1.7	2.6	1.4	1.7	2.5	1.4	1.7	2.5	1.3
West North Central	2.2	2.7	1.8	2.1	2.6	1.7	2.0	2.6	1.7
South Atlantic	1.7	2.2	1.4	1.7	2.2	1.4	1.6	2.1	1.3
East South Central	.9	1.4	.7	.9	1.4	.7	.9	1.4	.7
West South Central	1.7	2.5	1.4	1.7	2.5	1.3	1.6	2.4	1.3
Mountain	1.5	2.3	1.3	1.5	2.3	1.2	1.5	2.2	1.2
Pacific	1.3	1.8	1.1	1.3	1.8	1.1	1.3	1.8	1.1
Alaska and Hawaii	2.6	3.0	2.3	2.5	3.0	2.2	2.5	2.9	2.2
Total	1.6	2.4	1.3	1.6	2.3	1.3	1.6	2.3	1.3

Source: Edison Electric Institute. Statistical Year Book of the Electric Utility Industry. Annually 1963 through 1965.

Table 35.—Indexes of principal metal mining expenses [1]

(1957–59=100)

Year	Total	Labor	Supplies	Fuels	Electrical energy
1962	99	96	101	100	103
1963	98	95	102	100	102
1964	96	92	102	97	101
1965	100	[r] 98	103	99	101
1966 [p]	102	100	105	101	100

[p] Preliminary. [r] Revised.

[1] Indexes constructed using the following weights derived from the 1958 Census of Mineral Industries: Labor, 59.37; explosives, 2.42; steel mill shapes and forms, 3.51; all other supplies, 25.24; fuels, 5.08; electric energy, 4.38; and data from U.S. Department of Labor. Bureau of Labor Statistics. "Wholesale Prices and Price Indexes." The index is computed for iron and copper ores only because sufficient data are not available for other mining sectors.

Table 36.—Indexes of major input expenses for bituminous coal and crude petroleum and natural gas mining [1]

(1957–59=100)

Year	Bituminous coal	Crude petroleum natural gas
1962	88	99
1963	[r] 84	99
1964	84	99
1965	85	100
1966 [p]	84	99

[p] Preliminary. [r] Revised.

[1] Indexes based on weights derived from the 1958 Census of Mineral Industries and on data from U.S. Department of Labor, Bureau of Labor Statistics. "Wholesale Prices and Price Indexes." annual and monthly releases.

Table 37.—Indexes of relative labor costs and productivity for iron ore, copper, bituminous coal, and petroleum mining [1]

(1957-59=100)

Year	Index of labor costs per unit of output				Index of value of product per man-period				Index of labor costs per dollar of product			
	Iron ore [2]	Copper [2]	Bituminous coal	Petroleum	Iron ore [2]	Copper [2]	Bituminous coal	Petroleum	Iron ore [2]	Copper [2]	Bituminous coal	Petroleum
1962	96	98	82	98	112	126	[r] 119	[r] 113	100	93	89	[r] 101
1963	92	100	76	98	115	127	125	[r] 118	97	94	[r] 86	101
1964	87	[r] 101	75	98	123	[r] 139	[r] 134	[r] 120	93	[r] 91	84	102
1965	[r] 89	[r] 111	76	98	[r] 121	[r] 143	140	124	[r] 95	[r] 92	85	102
1966 [p]	91	114	75	94	123	147	151	136	97	91	89	98

[p] Preliminary. [r] Revised.

[1] Index of labor costs per unit of output: Iron ore and copper indexes are computed from data found in U.S. Department of Labor, Employment and Earnings and Wholesale Price Indexes. Bituminous coal index based upon net tons per man per day (see chapter on Bituminous Coal) and index of average earnings derived from Bureau of Labor Statistics data on hourly earnings; petroleum index based on barrels per year (see chapter on Petroleum) and Bureau of Employment Security data on total wages in petroleum production.

Index of value of product per man-period: Iron ore and copper indexes are computed from data found in U.S. Department of Labor, Employment and Earnings and Wholesale Price Indexes. Bituminous coal index based on net tons per man per day and mine values of production; petroleum index based on average employment and total value of production.

Index of labor costs per dollar of product: Iron ore and copper indexes are computed from data found in U.S. Department of Labor, Employment and Earnings and Wholesale Price Indexes. Bituminous coal index based on index of value per man per day and index of average earnings; petroleum index based on total value of production and total wages.

[2] Indexes are for recoverable metal.

Table 38.—Price indexes for selected cost items in mineral and mineral fuels production

(1957–59=100, unless otherwise specified)

Commodity	1966 January	1966 December	Change from January (percent)	Annual average 1965	Annual average 1966	Change from 1965 (percent)
Coal	98.1	102.4	+4.4	96.5	98.6	+2.2
Coke	107.3	112.0	+4.4	107.3	109.8	+2.3
Gas fuels (Jan. 1958 = 100)	128.2	132.0	+3.0	124.1	129.3	+4.2
Petroleum and refined products	98.3	100.2	+1.9	95.9	99.5	+3.8
Industrial chemicals	95.1	96.4	+1.4	95.0	95.7	+0.7
Lumber	104.3	104.5	+0.2	101.9	108.5	+6.5
Explosives	111.4	109.4	−1.8	111.4	109.7	−1.5
Construction machinery and equipment	116.9	121.0	+3.5	115.3	118.9	+3.1

Source: U.S. Department of Labor, Bureau of Labor Statistics. Wholesale Prices and Price Indexes January 1966, table 2 and January–February 1967, tables 2 and 2–B.

Table 39.—Price indexes for mining construction and material handling machinery and equipment

Year	Construction machinery and equipment	Mining machinery and equipment	Oilfield machinery and tools	Power cranes, draglines, shovels, etc.	Specialized construction machinery	Portable air compressors	Scrapers and graders	Mixers, pavers, spreaders, etc.	Tractors, other than farm
1962	107.8	108.4	103.2	106.1	107.4	113.7	105.3	110.3	108.5
1963	109.6	109.1	102.6	108.8	108.1	115.1	108.5	112.1	110.8
1964	112.4	110.5	104.3	111.8	108.5	117.6	110.8	116.3	114.7
1965	115.3	113.3	104.7	113.7	110.3	128.7	114.2	[r] 119.6	117.6
1966	118.9	116.8	106.2	118.3	114.5	133.8	117.1	123.7	120.8

[r] Revised.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Wholesale Prices and Price Indexes, January–February 1967, table 2B, and previous years.

Table 40.—National income originated in the mineral industries

Industry	Income, millions 1964 [r]	Income, millions 1965 [r]	Income, millions 1966 [p]	Change from 1965 (percent)
Mining	$5,924	$6,191	$6,703	+8.3
Metal mining	861	936	1,077	+15.1
Coal mining	1;307	1,319	1,354	+2.7
Crude petroleum and natural gas	2,638	2,737	2,928	+7.0
Mining and quarrying of nonmetallic metals	1,118	1,199	1,344	+12.1
Manufacturing	155,558	171,822	192,092	+11.8
Chemicals and allied products	11,225	12,500	13,665	+9.3
Petroleum refining and related industries	4,785	5,327	5,738	+7.7
Stone, clay, and glass products	5,443	5,723	6,117	+6.9
Primary metal industries	13,100	14,705	16,330	+11.1
All industries	518,068	562,380	616,729	+9.7

[r] Revised. [p] Preliminary.

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business. V. 47, No. 7, July 1967.

Table 41.—Direct private investment of U.S. companies in foreign petroleum industries, in 1966

(Million dollars; net inflows to the United States (−))

	Petroleum				All industries			
	Book value beginning of year	Net capital outflows	Undistributed earnings of subsidiaries	Book value end of year	Book value beginning of year	Net capital outflows	Undistributed earnings of subsidiaries	Bookvalue end of year
Canada	$3,356	$155	$89	$3,606	$15,223	$1,087	$539	$16,840
Latin American Republics, all	3,034	−67	−5	2,959	9,391	162	299	9,854
Other Western Hemisphere	512	32	8	579	1,445	114	41	1,619
Europe	3,427	634	−77	3,977	13,985	1,805	434	16,200
Africa	1,029	70	17	1,108	1,918	89	75	2,078
Middle East	1,436	112	12	1,560	1,536	121	13	1,671
Far East	904	−8	18	907	2,033	85	98	2,219
Oceania	498	12	10	521	1,813	150	97	2,064
International[1]	1,101	−64	28	1,047	1,985	−71	121	2,016
Total[2]	15,298	876	100	16,264	49,328	3,543	1,716	54,562

[1] Comprised of international trading and shipping companies.
[2] Data may not add due to rounding.

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business, V. 47, No. 9, September 1967.

Table 42.—Direct private investments of the United States in foreign mining and smelting industries in 1965 [p]

(Millions)

Country and areas	Mining and smelting				
	Value	Net capital outflow	Undistributed earnings of subsidiaries	Earnings[1]	Income[2]
Canada	$1,755	$1	$86	$198	$110
Latin America, total	1,114	−14	22	206	185
Mexico	103	−32	6	15	8
Panama	19	---	---	(3)	---
Brazil	51	(4)	(4)	(4)	(4)
Chile	509	9	(3)	57	56
Peru	263	21	(3)	64	66
Eurpoe	55	−1	−1	8	8
Africa, total	361	−2	4	61	55
South Africa, Republic of	65	1	−4	34	35
Far East	34	(3)	---	5	2
Oceania, total	162	56	7	8	1
Australia	161	55	7	10	3
All other countries[5]	313	58	6	85	82
Total, all areas[6][7]	3,794	98	124	571	443

[p] Preliminary.
[1] Earnings is the sum of the U.S. share in net earnings of subsidiaries and branch profits.
[2] Income is the sum of dividends, interest, and branch profits.
[3] Less than ½ unit.
[4] Combined with other industries in source reference.
[5] "All other countries" includes other Western Hemisphere, Middle East, and International.
[6] Excludes Cuba and Soviet bloc countries.
[7] Data may not add to total due to rounding.

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business. V. 46, No. 9, September 1966, pp. 34–35.

Table 43.—Expenditures for new plant and equipment by firms in mining and selected mineral manufacturing industries

(Billions)

	1964	1965	1966
Mining	$1.19	$1.30	$1.47
Manufacturing:			
Primary iron and steel	1.69	1.93	2.17
Primary nonferrous metals	.48	.68	.86
Stone, clay, and glass products	.68	.78	.91
Chemical and allied products	1.97	2.59	2.99
Petroleum and coal products	3.36	3.82	4.42
All manufacturing	18.58	22.45	26.99

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business, June 1966, p. 12; June 1967, p. 10.

Table 44.—Sources of funds of direct foreign investment by U.S. mining and smelting industries

(Millions)

Area	Net income			Funds from United States			Funds obtained abroad [1]		
	1963	1964	1965	1963	1964	1965	1963	1964	1965
Canada	$187	$308	$320	$−24	$14	$32	$70	$66	$90
Latin America	234	278	301	14	−72	−31	15	33	22
Europe	4	3	7	7	2	1	−1	(2)	6
Other areas	68	71	110	44	32	122	18	89	158
Total	493	660	738	41	−24	124	102	188	276

Area	Depreciation and depletion			Total sources		
	1963	1964	1965	1963	1964	1965
Canada	$114	$116	$122	$347	$504	$564
Latin America	101	98	107	364	337	399
Europe	2	5	5	12	10	19
Other areas	22	50	44	152	242	434
Total	239	269	278	875	1,093	1,416

[1] Includes miscellaneous sources.
[2] Less than ½ unit.

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business, V. 47, No. 1, January 1967, p. 28.

Table 45.—Uses of funds for direct foreign investment by U.S. mining and smelting industries

(Millions)

Area	Property, plant, and equipment			Inventories			Receivables		
	1963	1964	1965	1963	1964	1965	1963	1964	1965
Canada	$195	$220	$265	$−12	$−15	$54	$19	$39	$24
Latin America	109	123	160	5	9	30	10	11	12
Europe	5	3	5	−1	1	3	1	2	2
Other areas	89	117	252	5	18	13	15	21	15
Total	398	463	682	−3	13	100	45	73	53

Area	Other assets [1]			Income paid out			Total uses		
	1963	1964	1965	1963	1964	1965	1963	1964	1965
Canada	$60	$96	$57	$85	$164	$164	$347	$504	$564
Latin America	16	24	22	224	170	175	364	337	399
Europe	(2)	(2)	1	7	4	8	12	10	19
Other areas	5	36	64	38	50	90	152	242	434
Total	81	156	144	354	388	437	875	1,093	1,416

[1] Includes miscellaneous uses.
[2] Less than ½ unit.
Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business, V. 47, No. 1, January 1967, p. 28.

Table 46.—Annual average profit rates on shareholders equity, after taxes and total dividends, selected mineral manufacturing corporations

Industry	Annual profit rate (percent)			Total dividends (millions)		
	1965	1966	Change from 1965 (percent)	1965	1966	Change from 1965 (percent)
All manufacturing [1]	13.0	13.5	+3.8	$11,979	$12,958	+8.2
Primary metals	10.6	12.0	+13.2	1,034	1,114	+7.7
Primary iron and steel	9.8	10.3	+5.1	584	602	+3.1
Primary nonferrous metals	11.9	14.8	+24.4	450	511	+13.6
Stone, clay, and glass products	10.3	9.9	−3.9	341	363	+6.5
Chemicals and allied products	15.3	15.1	−1.3	1,556	1,717	+10.3
Petroleum refining and related products	11.9	12.4	+4.2	557	611	+9.6
Petroleum refining	11.9	12.4	+4.2	554	608	+9.7

[1] Except newspapers.

Source: Federal Trade Commission, Securities and Exchange Commission. Quarterly Financial Report for Manufacturing Corporations. 1st Quarter 1966 and 4th Quarter 1966, tables 4, 8.

Table 47.—Industrial and commercial failures and liabilities in mining and manufacturing

Industry	1964	1965	1966
Mining:[1]			
Number of failures	70	84	73
Current liabilities .... thousands	$30,030	$14,556	$15,740
Manufacturing:			
Number of failures	2,184	2,013	1,779
Current liabilities .... thousands	$331,834	$335,768	$337,121
All industrial and commercial industries:			
Number of failures	13,501	13,514	13,061
Current liabilities .... thousands	$1,329,223	$1,321,666	$1,385,659

[1] Including fuels.

Source: Dun and Bradstreet, Inc., Business Economics Department, Business Conditions Staff. Monthly Business Failures. New York, N.Y. January 25, 1967, K9, No. 1, p. 2.

Table 48.—Estimated gross proceeds of new corporate securities offered for cash in 1966[1]

Type of security	Total corporate		Manufacturing		Extractive[2]	
	Millions	Percent	Millions	Percent	Millions	Percent
Bonds	$15,561	86.1	$5,861	82.9	$258	68.8
Preferred stock	574	3.2	73	1.0	12	3.2
Common stock	1,939	10.7	1,136	16.1	105	28.0
Total	18,074	100.0	7,070	100.0	375	100.0

[1] Substantially all new issues of securities for cash sale in the United States in amounts over $100,000 and with terms of maturity of more than 1 year are covered in these data.

[2] Including fuels.

Source: U.S. Securities and Exchange Commission. Statistical Bulletin, V. 26, No. 4, April 1967, p. 13.

Table 49.—Plant and equipment expenditures of direct investments by country and major industry

(Millions)

Area and country	1964[r]			1965[r]			1966[1]		
	Mining and smelting	Petroleum	Manufacturing	Mining and smelting	Petroleum	Manufacturing	Mining and smelting	Petroleum	Manufacturing
Canada	$220	$385	$771	$265	$503	$952	$340	$552	$1,171
Latin American Republics[2]	123	327	413	160	307	446	214	336	510
Europe	3	645	1,328	5	603	1,873	5	873	2,406
All other countries	117	716	495	252	854	622	267	966	710
Grand total	463	2,073	3,007	682	2,267	3,893	826	2,727	4,797

[r] Revised.

[1] Estimated on the basis of company projections.

[2] Includes "other Western Hemisphere."

Source: U.S. Department of Commerce, Office of Business Economics. Survey of Current Business, V. 46, No. 9, September 1966, p. 32.

Table 50.—Value of foreign direct investments in the United States

(Millions)

Industry	1962	1963	1964	1965	1966 [p]
Total	$7,612	$7,944	$8,363	[r] $8,797	$9,054
Petroleum	1,419	1,513	1,612	1,710	1,740

[p] Preliminary. [r] Revised.

Source: U.S. Department of Commerce, Office of Business Economics, Survey of Current Business September 1967.

Table 51.—Miles of utility gas main by type of gas and by type of main [1]

Type of gas and type of main	1961	1962	1963	1964	1965
All types:					
Field and gathering	56,730	58,680	60,720	61,010	62,110
Transmission	191,840	196,380	200,940	205,400	211,360
Distribution	410,390	428,170	448,280	469,810	494,520
Total	658,960	683,230	709,940	736,220	767,990
Natural gas:					
Field and gathering	56,730	58,680	60,720	61,010	62,110
Transmission	189,990	194,970	200,020	204,730	210,780
Distribution	390,400	409,910	433,620	458,770	484,260
Total	637,120	663,560	694,360	724,510	757,150
Manufactured gas:					
Field and gathering	-----	-----	-----	-----	-----
Transmission	30	20	(2)	(2)	10
Distribution	1,480	1,480	1,490	1,460	1,420
Total	1,510	1,500	1,490	1,460	1,430
Mixed gas:					
Field and gathering	-----	-----	-----	-----	-----
Transmission	1,810	1,380	920	670	570
Distribution	16,640	15,080	11,890	8,310	7,810
Total	18,450	16,460	12,810	8,980	8,380
Liquefied petroleum gas:					
Field and gathering	-----	-----	-----	-----	-----
Transmission	10	10	-----	-----	-----
Distribution	1,870	1,700	1,280	1,270	1,030
Total	1,880	1,710	1,280	1,270	1,030

[1] Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of each year.

[2] Less than 5 miles.

Note: For earlier years please refer to Historical Statistics of the Gas Industry.

Source: American Gas Association. Gas Facts; a Statistical Record of the Gas Utility Industry; 1965 Data, New York, 1966, 253 pp.

Table 52.—Petroleum pipelines, selected years

(Miles)

Year	Trunklines		Gathering lines	Total
	Crude	Products		
1953	75,228	27,236	68,040	170,504
1956	78,594	36,420	73,526	188,540
1959	70,317	44,483	75,182	189,982
1962	70,355	53,200	76,988	200,543
1965	72,383	61,443	77,041	210,867

Table 53.—Percentage distribution of mine shipments of bituminous coal and lignite by method of shipment and mine use

Year	Method of shipment from mines				
	Shipped by rail and trucked to rail	Shipped by water and trucked to water	Trucked to final destination	Used at mines [1]	Total production
1962	72.8	11.4	13.0	2.8	100.0
1963	72.8	11.0	13.3	2.9	100.0
1964	71.7	12.2	13.5	2.6	100.0
1965	72.6	11.8	13.3	2.3	100.0
1966	72.5	11.6	12.6	3.3	100.0

[1] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transportated from mine to point of use by conveyor, tram, or pipeline

Table 54.—Rail transportation of mineral energy resources and related products [1]

(Thousand short tons)

Products [2]	1964	1965	Change from 1964 (percent)
Coal:			
Anthracite [3]	12,715	10,423	−18
Bituminous and lignite	344,970	352,597	+2
Coke	280	366	+31
Crude petroleum and natural gas	868	648	−25
Gasoline	5,268	3,853	−27
Distillate and residual fuel oils	6,175	6,186	(4)
Asphalt	2,171	1,878	−13
Lubricants	3,377	3,337	−1
Liquefied petroleum gases and coal gases	5,264	5,312	+1
Other [5]	7,880	7,759	−2
Total	388,968	392,359	+1

[1] Figures have been reclassified. Not comparable to previous years.

[2] Includes revenue freight originated on respondent's road and terminated on line by originating carrier or delivered to connecting rail carriers.

[3] Includes shipments to breakers and washeries.

[4] Less than ½ unit.

[5] Includes natural gasoline, miscellaneous petroleum products, and paving materials.

Source: Interstate Commerce Commission. Freight Commodity Statistics, Class I Railroads in the United States for years ended December 31, 1964 and December 31, 1965.

Table 55.—Water transportation of mineral energy resources and related products [1]

(Thousand short tons)

Mineral energy resource	1964	1965	Change from 1964 (percent)
Coal:			
Anthracite	390	339	−13
Bituminous	154,936	156,645	+1
Coke	558	465	−17
Crude petroleum	79,998	82,083	+3
Gasoline	93,782	90,440	−4
Jet fuel	9,864	10,025	+2
Kerosine	8,273	8,655	+5
Distillate fuel oil	70,787	71,581	+1
Residual fuel oil	44,910	42,932	−4
Asphalt, tar, and pitches [2]	5,059	7,657	+51
Other [3]	[r] 8,497	10,212	+20
Total	477,054	481,034	+1

[r] Revised.

[1] Domestic traffic only: Traffic with Canel Zone, Puerto Rico, the Virgin Islands, and military cargoes carried in Department of Defense vehicles are excluded.

[2] The total for 1965 is not strictly comparable to that for 1964 because of changes in classification.

[3] Includes lubricants, liquefied petroleum gases, natural gas, natural gas liquids, and other petroleum and coal products.

Table 56.—Research and development activity

	Funds expended (million dollars)					
	Total		Company		Federal Government	
	1964	1965 [p]	1964	1965 [p]	1964	1965 [p]
Petroleum refining and extraction	$410	$435	$341	$363	$69	$72
Percent of all industries	2.9	3.2	4.4	6.3	1.1	0.9
Chemicals and allied products	$1,300	$1,377	$1,098	$1,187	$202	$190
Percent of all industries	9.2	10.2	14.2	20.6	3.1	2.4
All industries	$14,197	$13,512	$7,759	$5,753	$6,438	$7,759

[p] Preliminary.

Source: National Science Foundation. Reviews of Data on Science Resources, No. 10, December 1966, tables 1, 2, and 3.

Table 57.—Bureau of Mines obligations for mining and mineral research and development

(Thousands)

Fiscal year	Applied research	Basic research	Development	Total
1963 [1]	$17,752	$3,385	$8,335	$29,472
1964	18,905	4,138	2,550	25,593
1965	19,733	4,355	3,118	27,206
1966 [r]	20,836	4,636	3,390	28,862
1967 [e]	23,708	4,839	4,938	33,485

[r] Revised. [e] Estimate.

[1] Not comparable with other years because definitions of research and developnent were changed.

Table 58.—Federal obligated funds for metallurgy and material research

(Thousands)

Federal agency	Fiscal Year 1966 [e] Basic research	Fiscal Year 1966 [e] Applied research	Fiscal Year 1966 [e] Total research	Fiscal Year 1967 [e] Basic research	Fiscal Year 1967 [e] Applied research	Fiscal Year 1967 [e] Total research
Department of Defense	$17,862	$78,573	$96,435	$19,591	$76,711	$96,302
Atomic Energy Commission	11,338	13,222	24,560	12,316	13,068	25,384
National Aeronautics and Space Administration	13,416	3,459	16,875	13,959	4,145	18,104
Bureau of Mines	---	6,195	6,195	---	6,118	6,118
National Science Foundation	2,260	---	2,260	2,705	---	2,705
Department of Agriculture	290	1,789	2,079	311	1,741	2,052
Department of Commerce	798	237	1,035	825	245	1,070
Other	609	157	766	660	161	821
Total	$46,573	$103,632	$150,205	$50,367	$102,189	$152,556

[e] Estimate.

Source: National Science Foundation.

Table 59.—Bureau of Mines obligation for total research, by field of science

(Thousands)

	Fiscal year 1965	Fiscal year 1966 [r]	Fiscal year 1967 [e]
Engineering sciences	$15,702	$16,594	$19,249
Physical sciences	7,558	8,011	8,300
Mathematical sciences	828	867	998
Total research	$24,088	$25,472	$28,547

[r] Revised. [e] Estimate.

Table 60.—Summary of government inventories of strategic and critical materials, December 31, 1966

	Million short tons	Acquisition cost	Market value [1]
Total inventories:			
National stockpile	24.3	$4,674,483,100	$4,791,986,900
Supplemental stockpile	18.0	1,425,280,900	1,323,153,200
Defense Production Act	6.0	1,095,514,100	672,681,800
Commodity Credit Corporation	.0	5,436,800	5,608,200
Total on hand	48.3	7,200,714,900	6,793,430,100
On order	.1	40,254,100	41,730,000
Inventories within objective:			
Total on hand	27.3	3,203,494,900	3,341,399,100
Inventories excess to objectives:			
Total on hand	21.0	3,997,220,000	3,452,031,000

[1] Market values are computed from prices at which similar materials are being traded currently; or, in the absence of current trading, an estimate of the price which would prevail in commercial markets. The market values are generally unadjusted for normal premiums and discounts relating to contained qualities, so that market values are understated for materials such as metal grade bauxite to the extent that the inventories are of premium quality. The market values do not necessarily reflect the amount that would be realized at time of sale. Source: Executive Office of the President, Office of Emergency Planning. Stockpile Report to the Congress, July-December 1966, p. 4.

Table 61.—U.S. Government stockpile disposal of mineral commodities, in 1966

Commodity	Sales commitments	
	Quantity	Sales value
National stockpile inventory:		
Aluminum, short tons	39,733	$19,715,393
Antimony, do.	66	52,440
Asbestos, amosite, do.	549	106,750
Asbestos, crocidolite, do.	135	23,300
Bauxite, refractory, long calcined tons	59,878	2,514,876
Bismuth, pounds	212,315	849,200
Bismuth alloy, do.	36,580	83,575
Cadmium, do.	638,874	1,533,385
Celestite, short dry tons	9,870	330,607
Chromite, metallurgical, long dry tons	75,598	1,911,576
Chromium metal, pounds	33,552	33,637
Colemanite, long dry tons	130	1,300
Copper, short tons	277,131	156,075,265
Fluorspar, acid grade, short dry tons	17,139	506,616
Graphite, Malagasy, crystalline, do.	1,029	139,727
Graphite, other, do.	425	59,604
Lead, short tons	74,054	21,594,708
Magnesium, do.	20,954	12,847,215
Manganese, metallurgical, short dry tons	82,977	2,102,415
Mica, pounds	220,071	159,743
Molybdenum, do.	12,508,590	20,981,217
Nickel, do.	6,729,046	5,742,546
Nickel oxide powder, do.	8,093,551	5,829,974
Nickel, various forms, do.	120,521,149	89,127,445
Platinum group metals		
Platinum, troy ounces	316,337	30,559,966
Ruthenium, do.	1,300	43,324
Quartz crystals, pounds	67,173	209,167
Rhodium, troy ounces	445	107,318
Talc, steatite lump, short tons	1	300
Thorium (oxide contained), pounds	326,580	1,320,518
Tin, long tons	16,301	59,103,155
Vanadium, short tons	2,241	9,766,628
Zinc, short tons	54,530	16,560,288
Total National Stockpile	--------	459,993,178
Defence Production Act (DPA) inventory:		
Aluminum, short tons	268,106	131,528,384
Asbestos, chrysolite, do.	293	50,810
Beryl, do.	2,542	708,507
Chromite, metallurgical, short dry tons	84,286	1,968,439
Cobalt, pounds	1,517,623	2,324,678
Columbium, do.	1,962,413	9,079,155
Manganese, battery, synthetic dioxide, short dry tons	229	112,406
Manganese, ore, metallurgical, do.	71,721	1,388,273
Manganese, metallurgical, short dry tons	56,181	974,530
Mica, muscovite block, pounds	756	27,239
Nickel, ferro, do.	70,756,499	52,114,215
Titanium, short tons	923	1,913,187
Tungsten, pounds-tungsten content	3,943,950	9,998,889
Tungsten concentrates, do.	4,255,972	10,967,326
Total DPA	--------	223,156,038
Materials transferred to GSA from the Atomic Energy Commission		
Mercury, flasks	454	[1] (57,755)
Vanadium pentoxide, short tons-vanadium content	1,105	4,814,072
Yttrium-bearing materials, pounds	84,141	1,791,219
Total AEC	--------	6,547,536
Federal Property Act inventory: Mercury, flasks	6,325	2,926,993
Other: [2] Bauxite, metallurgical subspecification-long dry tons	440,000	2,000,000
Grand total	--------	694,623,745

[1] Credit adjustment for prior period.
[2] Acquired by GSA under Federal Property Act.

Source: Executive Office of the President, Office of Emergency Planning. Stockpile Report to the Congress, January–June 1966, p. 14, and July–December 1966, p. 9.

Table 62.—Indexes of world production of major minerals [1]

(1958=100)

	Canada and the United States	Latin America [2]	Asia: East and southeast [3]	Europe [4]	World [5]
Extractive industries:					
Metals:					
1964	121	124	152	112	130
1965	126	127	167	118	137
1966:					
First quarter	120	125	161	116	134
Second quarter	142	124	177	118	145
Third quarter	140	138	176	107	144
Fourth quarter	130	135	166	113	141
Annual average	133	131	170	114	141
Coal:					
1964	114	118	123	94	102
1965	120	113	125	90	101
1966:					
First quarter	122	NA	133	90	102
Second quarter	115	NA	129	86	97
Third quarter	120	NA	125	75	91
Fourth quarter	133	NA	129	86	101
Annual average	122	NA	129	84	98
Crude oil and natural gas:					
1964	118	135	182	213	156
1965	120	138	199	225	162
1966:					
First quarter	127	137	209	234	174
Second quarter	126	136	203	228	175
Third quarter	126	131	198	223	176
Fourth quarter	129	140	211	243	182
Annual average	127	136	205	232	177
Total extractives:					
1964	119	131	216	108	135
1965	123	133	228	108	140
1966:					
First quarter	126	132	241	109	145
Second quarter	130	131	244	107	147
Third quarter	131	131	251	99	146
Fourth quarter	133	136	263	109	151
Annual average	130	132	250	106	147
Manufacturing industries:					
Base Metals:					
1964	149	155	285	143	155
1965	159	158	292	152	164
1966:					
First quarter	163	NA	300	156	168
Second quarter	173	NA	322	156	175
Third quarter	159	NA	342	144	165
Fourth quarter	160	NA	371	152	170
Annual average	164	NA	334	152	170
Nonmetallic mineral products:					
1964	135	137	212	159	150
1965	143	142	222	163	156
1966:					
First quarter	138	NA	219	152	149
Second quarter	156	NA	233	178	169
Third quarter	160	NA	249	175	171
Fourth quarter	148	NA	258	169	164
Annual average	150	NA	240	168	163
Petroleum, coal products and chemicals: [6]					
1964	157	144	224	191	173
1965	169	NA	253	206	188
1966:					
First quarter	179	NA	274	223	201
Second quarter	187	NA	284	229	208
Third quarter	186	NA	287	224	206
Fourth quarter	190	NA	310	238	214
Annual average	186	NA	289	228	207

[1] Excludes several countries of the Middle East and Africa.

[2] Central and South America and the Caribbean Islands.

[3] Afghanistan, Brunei, Burma, Ceylon, Hong Kong, India, Indonesia, Iran, Japan, South Korea, Malaysia (excluding Sabah), Pakistan, Philippines, Singapore, Taiwan, Thailand, and South Viet-Nam.

[4] Excluding Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the U.S.S.R.

[5] Excludes European Communist countries listed in footnote 3, Asian Communist countries (mainland China, North Korea, Mongolia, and North Viet-Nam, and a number of countries in Africa and the Middle East).

[6] Included in this table because of the importance of coal, petroleum, and their products in the mineral industry; these data, however, take into account elements of the chemical industry not considered as a part of the mineral industry elsewhere in this volume.

Table 62.—Indexes of world production of major minerals [1]—Continued

(1958=100)

	Canada and the United States	Latin America [2]	Asia: East and southeast [3]	Europe [4]	World [5]
Total manufacturing [7]					
1964	143	138	224	147	149
1965	156	NA	237	155	161
1966:					
First quarter	165	NA	250	160	167
Second quarter	172	NA	254	163	173
Third quarter	169	NA	262	153	168
Fourth quarter	175	NA	275	168	177
Annual average	170	NA	260	161	171
Overall industrial production [8]:					
1964	142	137	216	145	135
1965	154	NA	228	152	140
1966:					
First quarter	162	NA	241	159	145
Second quarter	168	NA	244	160	147
Third quarter	166	NA	251	150	146
Fourth quarter	172	NA	263	166	151
Annual average	167	NA	250	159	147

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[7] Aggregate of all manufacturing industries including food, beverages, tobacco, textiles, clothing, wood, wood products, paper, paper products, and metal products as well as the three mineral-based manufacturing sectors detailed above.

[8] Includes all extractives and manufacturing sectors, as well as the electric power and manufactured gas industries; excludes the construction industries.

Source: United Nations. Monthly Bulletin of Statistics, New York. May 1967, pp. X–XIX.

Table 63.—Comparisons of world and United States production and U.S. imports of principal minerals in 1966

Mineral	World production (thousand short tons unless otherwise stated) [p]	U.S. production (percentage of world production)	U.S. imports (percentage of world production)	Total U.S. production and imports (percentage of world production 1966)	Total U.S. production and imports (percentage of world production 1965 [r])
Mineral energy resources:					
Cruden petroleum ... thousand barrels	12,007,134	25	8	33	34
Natural gas ... million cubic feet	NA	NA	NA	NA	NA
Bituminous and lignite	2,926,195	18	(1)	18	18
Anthracite	209,200	6	-----	6	7
Nonmetals:					
Asbestos	3,350	4	21	25	27
Cement [2] ... thousand barrels	2,765,551	15	(1)	15	15
Diamond ... thousand carats	37,451	-----	59	59	46
Feldspar ... thousand long tons	2,010	34	-----	34	33
Fluorspar	3,280	8	27	35	34
Gypsum	52,870	18	11	29	30
Mica (including scrap) ... thousand pounds	415,000	55	1	56	57
Nitrogen, agricultural [2] [3]	21,300	27	7	34	35
Phosphate rock ... thousand long tons	98,440	40	(1)	40	35
Potash (K_2O) equivalent)	16,200	20	16	36	33
Salt [2]	122,500	30	2	32	31
Sulfur, elemental ... thousand long tons	16,350	51	9	60	38
Metallic ores and concentrates:					
Bauxite ... thousand long tons	38,805	5	29	34	30
Chromite	5,450	-----	15	15	13
Copper (content of ore and concentrate)	5,855	24	(1)	24	28
Iron ore ... thousand long tons	618,509	15	7	22	22
Lead (content of ore and concentrate)	3,155	10	2	12	14
Mercury ... thousand 76-pound flasks	266	8	12	20	13
Molybdenum (content of ore and concentrate) ... thousand pounds	143,800	63	(1)	63	67
Nickel (content of ore and concentrate)	475	3	30	33	37
Platinum group (Pt, Pd, etc.) ... thousand troy ounces	2,950	2	48	50	44
Silver ... do	253,000	17	14	31	34
Titanium concentrates:					
Ilmenite [4]	2,889	33	7	40	42
Rutile [4]	277	W	55	55	63
Tungsten concentrate (60 percent tungsten dioxide) ... short tons	65,300	14	3	17	15
Zinc (content of ore and concentrate)	4,905	12	8	20	22
Metals, smelter basis:					
Aluminum	8,025	37	8	45	45
Copper	6,440	25	9	34	26
Iron, pig	382,167	25	(1)	25	25
Lead	2,995	15	9	24	22
Magnesium ... short tons	175,200	45	2	47	47
Steel ingots and castings	524,040	26	2	28	28
Tin ... thousand long tons	201	2	21	23	23
Uranium oxide (U_3O_8) [4] ... short tons	19,700	48	11	59	62
Zinc	4,405	23	7	30	27

[r] Revised. [p] Preliminary. W Withheld to avoid disclosing company confidential data. NA Not available.

[1] Less than ½ unit. [2] Including Puerto Rico. [3] Year ended June of year stated (United Nations). [4] World total exclusive of U.S.S.R.

Table 64.—Value of world trade in major mineral commodities [1] by region [2] and major commodity group

(Million Dollars)

Area and country [2]	Minerals								All commodities	
	Exports				Imports					
	Metal ores and scrap	Base metals	Mineral fuels	Total	Metal ores and scrap	Base metals	Mineral fuels	Total	Exports	Imports
1963 total	3,640	11,740	15,700	31,080	3,640	11,740	15,700	31,080	153,780	153,780
1964 total	4,360	13,960	17,000	35,320	4,360	13,960	17,000	35,320	172,030	172,030
1965:										
Northern North America:										
United States	435	1,170	950	2,555	940	2,530	2,100	5,570	27,060	20,930
Canada	800	1,050	415	2,265	170	495	610	1,275	8,110	7,840
Total [3]	1,235	2,220	1,365	4,820	1,110	3,025	2,710	6,845	35,170	28,770
Latin America	670	760	2,780	4,210	57	740	620	1,417	11,100	9,340
Europe:										
Non-Communist:										
EEC	455	5,420	2,210	8,085	1,390	4,300	4,770	10,460	47,900	46,620
EFTA	355	2,130	520	3,005	650	2,410	2,780	5,840	26,100	29,280
Other [3]	70	230	60	360	100	830	710	1,640	5,010	8,590
Subtotal	880	7,780	2,790	11,450	2,140	7,540	8,260	17,940	79,010	84,490
Communist	470	1,990	2,260	4,720	520	1,850	1,320	3,690	19,710	18,990
Total [3]	1,350	9,770	5,050	16,170	2,660	9,390	9,580	21,630	98,720	103,480
Africa:										
Republic of South Africa	(4)	(5)	35	35	9	195	135	339	1,360	2,370
Other	390	1,350	1,590	3,330	4	450	450	904	7,670	8,080
Total [3]	NA	NA	1,625	3,365	13	645	585	1,243	9,030	10,450
Middle East	(4)	(5)	5,490	5,490	2	310	375	687	6,490	4,430
South Asia and Far East:										
Japan	(4)	1,410	30	1,440	640	325	1,310	2,275	8,450	6,850
Other non-communist	385	410	520	1,315	65	980	800	1,845	9,310	12,850
Subtotal [3]	(4)	1,820	550	2,755	705	1,305	2,110	4,120	17,760	19,700
Communist	(4)	155	26	181	4	205	55	264	2,000	2,120
Total	NA	1,975	576	2,936	709	1,510	2,165	4,384	19,760	21,820

See footnotes at end of table.

Table 64.—Value of world trade in major mineral commodities [1] by region [2] and major commodity group—Continued

(Million dollars)

Area and country [2]	Minerals								All commodities	
	Exports				Imports					
	Metal ores and scrap	Base metals	Mineral fuels	Total	Metal ores and scrap	Base metals	Mineral fuels	Total	Exports	Imports
Australia and New Zealand	(4)	220	98	318	7	270	310	587	3,970	3,960
Not specified by area	230	(5)	920	1,150	4	84	980	1,068	1,880	2,780
Grand total 1965	4,580	16,000	17,900	38,480	4,580	16,000	17,900	38,480	186,110	186,110

NA Not available.

[1] Metal ores and scrap are covered under Division 28 of the SITC (Standard International Trade Classification); base metals under Division 67 (Iron and steel) and 68 less group 681 (Nonferrous metals less precious metals); and Mineral fuels under Section 3 (Mineral fuels, lubricants and related materials).

[2] Regional groupings are in accordance with standard United Nations practices: Latin America includes all Western Hemisphere countries except the United States and Canada; EEC (European Economic Community) consists of Belgium, France, West Germany, Italy, Luxembourg, and Netherlands; EFTA (European Free Trade Association) consists of Austria, Denmark, Norway, Portugal, Sweden, Switzerland, and the United Kingdom; other non-Communist Europe includes Greece, Finland, Ireland, Spain, and Yugoslavia, and data were derived by difference between total Western Europe and the sum of EEC plus EFTA; Communist Europe includes Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, and the U.S.S.R.; Other Africa corresponds to the United Nations category "Developing Africa"; Middle East corresponds to the United Nations category "Western Asia"; other non-Communist South Asia and Far East corresponds to the United Nations category "Other developing Asia"; Communist South Asia and Far East comprises mainland China, North Korea, Mongolia, and North Viet Nam; and Not specified by area is reported by the United Nations as "Rest of World."

[3] Data not reported in source but derived.

[4] Data apparently included under "Not specified by area."

[5] Apparently not included elsewhere in table.

[6] Total as reported in source; differences between sum of listed detail and reported total are apparently due to inclusion of values under the total that do not appear in the detailed breakdown.

Sources: United Nations Monthly Bulletin of Statistics. March 1967, pp. xvi–xxxii, and May 1967, pp. xx–xxx.

Table 65.—Direction of trade in major mineral commodities by regions in 1965

(Million dollars)

Sources [2]	Destinations								
	Northern North America				Non-Communist Europe				
	United States	Canada	Total [1]	Latin America	EEC	EFTA	Other [1]	Total	Communist Europe
Northern North America:									
United States	XX	595	595	315	552	231	112	895	3
Canada	1,370	XX	1,370	43	151	511	29	691	7
Total	1,370	595	1,965	358	703	742	141	1,586	10
Latin America	1,510	265	1,775	342	520	476	53	1,045	37
Europe:									
Non-Communist:									
EEC	583	93	676	198	3,990	1,548	457	5,995	213
EFTA	239	64	303	70	970	836	234	2,040	164
Other [1]	28	2	30	8	130	91	4	225	68
Subtotal	850	159	1,009	276	5,090	2,475	695	8,260	445
Communist	20	3	23	155	382	338	346	1,066	3,020
Total [1]	870	162	1,032	431	5,472	2,813	1,041	9,326	3,465
Africa:									
Republic of South Africa [2]	1	-----	1	-----	6	1	-----	7	-----
Other	129	6	135	13	1,650	647	63	2,360	24
Total [1]	130	6	136	13	1,656	648	63	2,367	24
Middle East [2]	290	76	366	89	1,660	810	230	2,700	-----
Asia and Far East:									
Japan [3]	563	38	601	101	43	17	28	88	42
Other non-Communist	209	16	225	10	125	28	15	168	33
Subtotal [1]	772	54	826	111	168	45	43	256	75
Communist [3]	-----	-----	-----	2	21	6	1	28	53
Total [1]	772	54	826	113	189	51	44	284	128
Australia and New Zealand [3]	31	2	33	1	30	59	1	90	1
Not specified by area [4]	470	104	574	67	118	166	36	320	-----
Grand total [5]	5,570	1,275	6,845	1,417	10,460	5,840	1,640	17,940	3,590

Table 65.—Direction of trade in major mineral commodities by regions in 1965—Continued

(Million dollars)

Sources [2]	Destinations: Africa: Rep. of South Africa	Africa: Other	Africa: Total [1]	Middle East	Non-Communist Asia: Japan	Non-Communist Asia: Other	Non-Communist Asia: Total [1]	Communist Asia	Australia and New Zealand	Not specified by area
Northern North America:										
United States	20	43	63	23	303	279	582	-----	38	38
Canada	13	4	17	2	85	28	113	-----	20	3
Total	33	47	80	25	388	307	695	-----	58	41
Latin America	1	16	17	2	161	3	164	9	4	810
Europe:										
Non-Communist:										
EEC	58	290	348	167	10	136	146	64	17	27
EFTA	55	83	138	54	11	96	107	18	83	33
Other [1]	-----	14	12	5	-----	9	8	1	-----	-----
Subtotal	131	387	498	226	21	241	261	83	100	60
Communist:	-----	68	68	38	109	87	196	114	-----	-----
Total [1]	113	455	566	264	130	328	457	197	100	60
Africa:										
Republic of South Africa [2]	XX	10	10	-----	2	1	3	-----	-----	-----
Other	50	82	132	1	85	11	96	-----	2	-----
Total [1]	50	92	142	1	87	12	99	-----	2	-----
Middle East [2]	105	190	295	335	870	360	1,230	-----	190	63
Asia and Far East:										
Japan [3]	29	32	61	38	XX	375	375	56	82	5
Other non-Communist	1	7	8	10	368	383	751	1	89	14
Subtotal [1]	30	39	69	48	368	758	1,126	57	171	19
Communist [3]	-----	6	6	8	50	28	78	NA	-----	-----
Total [1]	30	45	75	56	418	786	1,204	57	171	19
Australia and New Zealand [3]	3	2	5	1	77	35	112	1	52	17
Not specified by area [4]	2	35	37	3	38	17	55	-----	3	59
Grand total [5]	339	904	1,243	687	2,275	1,845	4,120	264	587	1,068

NA Not available. XX Not applicable.

[1] Data not reported in source, but derived from data therein.

[2] Value of mineral fuel exports only; value of metal ores and scrap presumably included under "Not specified by area," value of base metals presumably excluded entirely from table except in grand total.

[3] Excludes value of metal ores and scrap, which is presumably included under "Not specified by area."

[4] Excludes value of base metals, which is presumably excluded entirely from table except in grand total.

[5] Total as reported in source; differences between sum of listed detail and reported total are apparently due to inclusion of values under the total that do not appear in the detailed breakdown.

Sources: United Nations. Monthly Bulletin of Statistics. March 1967, pp. xvi–xxxii, and May 1967, pp. xx–xxx.

Table 66.—Estimated world consumption of major nonferrous metals [1]

		r 1964	r 1965	1966
Aluminum [2]	thousand metric tons	5,834	6,496	6,963
Copper [3]	do	5,939	6,062	6,285
Lead	do	2,783	2,794	2,964
Tin [4]	thousand long tons	176	174	177
Zinc	thousand metric tons	3,864	3,991	4,025

r Revised.

[1] Refined metals including secondary; including estimates for U.S.S.R. and other Communist countries of Europe and Asia except where otherwise noted.

[2] Partial.

[3] Excludes Communist countries in Asia.

[4] As reported by International Tin Council, May 1967.

Source: Yearbook of the American Bureau of Metal Statistics (Forty-sixth Annual Issue for the year 1966).

Table 67.—Indexes of ocean freight rates

(1958=100)

Year	Trip charter				
	West Germany		Netherlands [1] (general)	Norway	
	Dry cargo	Tankers		Dry cargo	Tankers [2]
1964	117	117	100	110	124
1965	128	115	100	115	121
1966: [3]					
First quarter	131	105	104	116	113
Second quarter	113	78	97	109	80
Third quarter	108	103	80	107	104
Fourth quarter	107	122	73	NA	NA
Annual average	117	109	88	NA	NA

Year	Trip charter				Time charter		London tanker bankers panel
	United Kingdom				Norway (dry cargo)	United Kingdom (dry cargo)	
	General	Coal trade	Ore trade	Fertilizer trade			
1964	124	122	102	108	139	140	65
1965	140	133	118	131	155	158	64
1966: [3]							
First quarter	135	124	117	118	153	167	65
Second quarter	123	96	88	136	140	159	67
Third quarter	115	112	85	NA	123	156	68
Fourth quarter	123	118	NA	127	NA	139	66
Annual average	126	111	93	124	NA	156	66

NA Not available.

[1] 1960 = 100.

[2] [illegible] market.

[3] Except for Netherlands general and London Tanker Brokers Panel, quarterly figures are for those for last month in the quarter; Netherlands and London Tanker Brokers Panel quarterly figures are actual quarterly averages.

Table 68.—Price indexes of selected world exports of minerals

(1958=100)

Year	Primary commodities [1]	Minerals			Nonferrous base metals
		Metal ores	Fuels	Total	
1964	103	104	91	94	138
1965	100	110	92	96	155
1966:					
First quarter	102	115	92	98	179
Second quarter	102	112	92	97	191
Third quarter	101	108	92	96	173
Fourth quarter	100	106	92	96	170
Annual average	101	110	92	96	178

[1] Includes principal primary products (food and nonfood) of the agricultural, animal husbandry, forestry, and fishing industries, including textiles and crude nonfuel and fuel minerals (excludes smelter products and equivalent mineral industry products).

Source: United Nations. Monthly Bulletin of Statistics, June 1966, Special Tables CI and CII, pp. xii–xiii.

Table 69.—Analysis of export price indexes of major minerals

(1958=100)

Year	Developed areas		Developing areas	
	Minerals	Nonferrous metals	Minerals	Nonferrous metals
1964	102	128	92	147
1965	105	143	93	176
1966:				
First quarter	110	157	94	215
Second quarter	107	164	94	237
Third quarter	105	152	93	211
Fourth quarter	104	150	93	204
Annual average	106	156	93	215

Source: United Nations. Monthly Bulletin of Statistics, June 1967, p. xix.

Technologic Trends in the Mineral Industries (Metals and Nonmetals Except Fuels)

By F. L. Wideman [1]

Materials handled at metal and nonmetal mines in the United States increased 10 percent compared with those of 1965 as a result of expansions in output at existing mines and development of others to meet increasing demands for mineral products. The tonnage of commercial materials mined or quarried increased as did the quantity of waste handled. Crude material from which metal or nonmetal products were derived comprised 71 percent (75 percent in 1964) of the total materials handled. Great strides were made in mining technology and there were indications that, in the future, earth moving by the mining industry will involve materials-handling systems of increasing size and complexity.

Materials Handled.—Output of ore and waste at metal and nonmetal mines and quarries in the United States in 1966 totaled 3,518 million tons (3,213 million tons in 1965). The quantity of materials handled has increased at an average annual rate of 5 percent since 1962. Ore production increased 4 percent over that of 1965, also comparable to the average annual rate of increase in the last 5 years. Waste removal in 1966 increased 25 percent over that of the previous year.

At metal mines, crude ore production increased 5 percent and output of waste rose 25 percent. Ore and waste were 44 percent and 56 percent, respectively, (48 percent and 52 percent in 1965) of the total materials handled. Copper and iron ore mines accounted for 79 percent of the crude ore and 85 percent of the total materials handled. Production of iron ore from the Peter Mitchell mine of Reserve Mining Co. again slightly exceeded ore mined by Kennecott Copper Corp., Utah Copper Divison. However, the enormous quantity of waste added to the large tonnage of ore produced placed Utah Copper first in total material handled.

The tonnage of all materials handled at nonmetal mines increased 7 percent over that of 1965 and totaled 2,377 million tons. Output of usable raw materials and waste increased 4 percent and 24 percent, respectively. The combined materials handled at sand and gravel pits and stone quarries totaled about 1.81 billion tons and was 76 percent (80 percent in 1965) of the total materials handled at nonmetal mines and quarries.

New York was added to the list of States where total materials handled exceeded 100 million tons. A surge in development and expansion of open pit copper mines in Arizona accounted for much of the increase in materials handled in that State, which replaced California in first place in total materials handled. Increased output and development of phosphate rock mines placed Florida in second place. Increased production was reported in four of the other six States where production exceeded 100 million tons—California, Minnesota, Michigan, and Pennsylvania. Output in Ohio was unchanged and a decrease was reported in Utah.

Value patterns remained essentially the same as in previous years, with unit values for underground ore usually larger than those for surface products. Byproducts continued to contribute to the value of salable products of several mineral commodities. The average value of byproducts in ores of metals from all mines dropped from 45 cents a ton in 1964 to 37 cents in 1966. The value of byproducts in nonmetals, sand and gravel excepted, increased from 3 cents in 1964 to 20 cents in 1966.

Comparison of Production from Surface and Underground Mines.—Surface mines produced 94 percent of the ore and 95 percent of the total materials handled in

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[1] Mining engineer, Denver Mining Research Center, Bureau of Mines, Denver, Colorado.

Table 1.—Material handled at surface and underground mines, by commodities, in 1966

(Thousand short tons)

Commodity	Surface			Underground			All mines		
	Crude ore	Waste	Total	Crude ore	Waste	Total	Crude ore	Waste	Total
Metals:									
Bauxite	2,167	665	2,832	232	-----	232	2,399	665	3,064
Beryllium	16	3	19	-----	-----	-----	16	3	19
Copper	158,132	371,210	529,342	28,718	467	29,185	186,850	371,677	558,527
Gold:									
Lode	1,483	8,287	9,770	2,277	316	2,593	3,760	8,603	12,363
Placer	27,008	2,502	29,510	-----	-----	-----	27,008	2,502	29,510
Iron ore	186,753	205,421	392,174	19,339	2,530	21,869	206,092	207,951	414,043
Lead	249	3	252	6,714	660	7,374	6,963	663	7,626
Manganese ore	2	-----	2	43	-----	43	45	-----	45
Manganiferous ore	976	662	1,638	-----	-----	-----	976	662	1,638
Mercury	200	710	910	152	119	271	352	829	1,181
Molybdenum	3,650	11,980	15,630	15,198	151	15,349	18,848	12,131	30,979
Nickel	1,044	401	1,445	-----	-----	-----	1,044	401	1,445
Silver	356	21	377	499	216	715	855	237	1,092
Titanium: Ilmenite	24,367	4,897	29,264	-----	-----	-----	24,367	4,897	29,264
Tungsten	-----	-----	-----	480	30	510	480	30	510
Uranium	998	26,900	27,898	3,062	951	4,013	4,060	27,851	31,911
Zinc	608	327	935	11,296	1,396	12,692	11,904	1,723	13,627
Other [1]	3,483	403	3,886	1	-----	1	3,484	403	3,887
Total	412,000	634,000	1,046,000	88,000	7,000	95,000	500,000	641,000	1,141,000
Nonmetals:									
Abrasives [2]	150	219	369	37	-----	37	187	219	406
Asbestos	1,465	1,080	2,545	57	3	60	1,522	1,083	2,605
Barite	7,028	1,694	8,722	199	-----	199	7,227	1,694	8,921
Boron minerals	10,553	7,555	18,108	-----	-----	-----	10,553	7,555	18,108
Clays	55,360	51,989	107,349	1,486	10	1,496	56,846	51,999	108,845
Diatomite	1,023	4,680	5,703	-----	-----	-----	1,023	4,680	5,703
Feldspar	1,484	159	1,643	-----	-----	-----	1,484	159	1,643
Fluorspar	42	10	52	681	26	707	723	36	759
Gypsum	7,242	10,450	17,692	2,416	-----	2,416	9,658	10,450	20,108
Mica	871	34	905	2	-----	2	873	34	907
Perlite	546	107	653	3	-----	3	549	107	656
Phosphate rock	111,409	218,782	330,191	1,798	7	1,805	113,207	218,789	331,996
Potassium salts	-----	-----	-----	21,320	1,639	22,959	21,320	1,639	22,959
Pumice	3,260	175	3,435	-----	-----	-----	3,260	175	3,435
Salt	4,862	100	4,962	10,269	336	10,605	15,131	436	15,567
Sand and gravel	934,605	-----	934,605	-----	-----	-----	934,605	-----	934,605
Sodium carbonate (natural)	-----	-----	-----	2,346	1	2,347	2,346	1	2,347
Stone:									
Crushed and broken	773,219	63,286	836,505	35,382	215	35,597	808,601	63,501	872,102
Dimension	5,360	1,295	6,655	394	71	465	5,754	1,366	7,120
Sulfur:									
Frasch-process mines	7,841	-----	7,841	-----	-----	-----	7,841	-----	7,841
Other mines	1	-----	1	-----	-----	-----	1	-----	1

Talc, soapstone, and pyrophyllite	388	624	1,007	557	31	588	940	655	1,595
Vermiculite	1,205	2,990	4,195	-----	-----	-----	1,205	2,990	4,195
Other [3]	2,379	2,247	4,626	101	3	104	2,480	2,250	4,730
Total	1,930,000	368,000	2,298,000	77,000	2,000	79,000	2,007,000	370,000	2,377,000
Grand total	2,342,000	1,002,000	3,344,000	165,000	9,000	174,000	2,507,000	1,011,000	3,518,000

[1] Antimony, magnesium, monazite, platinum-group metals, rare-earth metals, tin, and vanadium.
[2] Emery, garnet, and tripoli.
[3] Aplite, graphite, greensand marl, kyanite, lithium minerals, magnesite, olivine, pyrites, sodium sulfate (natural), and wollastonite.

Table 2.—Material handled at surface and underground mines (including sand and gravel and stone), by States in 1966

(Thousand short tons)

State	Surface			Underground			All mines		
	Crude ore	Waste	Total	Crude ore	Waste	Total	Crude ore	Waste	Total
Alabama	32,212	26,719	58,931	1,769	125	1,894	33,981	26,844	60,825
Alaska	25,792	2,785	28,577	-----	-----	-----	25,792	2,785	28,577
Arizona	108,108	247,450	355,558	15,968	540	16,508	124,076	247,990	372,066
Arkansas	38,241	1,124	39,365	1,267	-----	1,267	39,508	1,124	40,632
California	218,745	66,726	285,471	1,710	151	1,861	220,455	66,877	287,332
Colorado	30,253	106	30,359	16,978	679	17,657	47,231	785	48,016
Connecticut	15,705	209	15,914	-----	-----	-----	15,705	209	15,914
Florida	157,041	191,189	348,230	-----	-----	-----	157,041	191,189	348,230
Georgia	41,602	32,268	73,870	1,006	-----	1,006	42,608	32,268	74,876
Idaho	15,655	19,530	35,185	1,637	483	2,120	17,292	20,013	37,305
Illinois	84,054	7,000	91,054	3,407	1	3,408	87,461	7,001	94,462
Indiana	50,940	1,885	52,825	1,180	-----	1,180	52,120	1,885	54,005
Iowa	47,907	11,093	59,000	2,264	-----	2,264	50,171	11,093	61,264
Kansas	24,890	1,316	26,206	2,362	-----	2,362	27,252	1,316	28,568
Kentucky	24,902	2,981	27,883	6,083	26	6,109	30,985	3,007	33,992
Louisiana	32,401	44	32,445	3,787	-----	3,787	36,188	44	36,232
Maine	16,212	9	16,221	7	-----	7	16,219	9	16,228
Maryland	29,647	261	29,908	112	-----	112	29,759	261	30,020
Massachusetts	24,275	46	24,321	5	-----	5	24,280	46	24,326
Michigan	120,183	15,267	135,450	18,127	406	18,533	138,310	15,673	153,983
Minnesota	174,061	106,993	281,054	1,374	26	1,400	175,435	107,019	282,454
Mississippi	16,062	1,758	17,820	-----	-----	-----	16,062	1,758	17,820
Missouri	45,039	2,441	47,480	16,480	281	16,761	61,519	2,722	64,241
Montana	34,459	3,412	37,871	3,615	2	3,617	38,074	3,414	41,488
Nebraska	18,748	532	19,280	-----	-----	-----	18,748	532	19,280
Nevada	30,859	52,371	83,230	450	159	609	31,309	52,530	83,839
New Hampshire	7,927	11	7,938	-----	-----	-----	7,927	11	7,938
New Jersey	32,135	540	32,675	243	3	246	32,378	543	32,921
New Mexico	31,956	36,051	68,007	22,511	1,245	23,756	54,467	37,296	91,763
New York	88,277	6,118	94,395	6,724	38	6,762	95,001	6,156	101,157
North Carolina	41,206	2,532	43,738	12	-----	12	41,218	2,532	43,750
North Dakota	10,412	5	10,417	-----	-----	-----	10,412	5	10,417
Ohio	91,769	5,406	97,175	4,936	218	5,154	96,705	5,624	102,329
Oklahoma	20,881	1,100	21,981	1,384	-----	1,384	22,265	1,100	23,365
Oregon	70,898	431	71,329	19	-----	19	70,917	431	71,348
Pennsylvania	77,369	19,658	97,027	7,719	1,750	9,469	85,088	21,408	106,496
Rhode Island	2,816	-----	2,816	-----	-----	-----	2,816	-----	2,816
South Carolina	17,191	4,181	21,372	-----	-----	-----	17,191	4,181	21,372
South Dakota	16,268	188	16,456	1,982	212	2,194	18,250	400	18,650
Tennessee	44,272	3,974	48,246	5,578	222	5,800	49,850	4,196	54,046
Texas	81,886	7,593	89,479	267	5	272	82,153	7,598	89,751
Utah	51,917	75,960	127,877	2,802	1,243	4,045	54,719	77,203	131,922
Vermont	6,413	900	7,313	325	75	400	6,738	975	7,713
Virginia	51,633	2,578	54,211	2,991	594	3,585	54,624	3,172	57,796
Washington	43,033	639	43,672	902	204	1,106	43,935	843	44,778
West Virginia	13,405	1,603	15,008	2,504	28	2,532	15,909	1,631	17,540

Wisconsin	57,843	464	58,307	952	12	964	58,795	476	59,271
Wyoming	16,363	36,395	52,758	3,628	445	4,073	19,991	36,840	56,831
Other States [1]	7,922	41	7,963	-----	-----	-----	7,922	41	7,963
Total	2,342,000	1,002,000	3,344,000	165,000	9,000	174,000	2,507,000	1,011,000	3,518,000

[1] Delaware and Hawaii.

Table 3.—Value of principal mineral products and byproducts of surface and underground ores mined in the United States in 1966

(Value per ton)

Ore	Surface			Underground			All mines		
	Principal mineral product	Byproducts	Total	Principal mineral product	Byproducts	Total	Principal mineral product	Byproducts	Total
Metals:									
Bauxite	$8.12	---	$8.12	$8.12	---	$8.12	$8.12	---	$8.12
Beryllium	1.68	$0.31	1.99	---	---	---	1.68	$0.31	1.99
Copper	5.00	.40	5.40	7.70	$0.85	8.55	5.38	.46	5.84
Gold:									
Lode	8.72	.04	8.76	11.43	2.19	13.62	10.43	1.39	11.82
Placer	.11	---	.11	---	---	---	.11	---	.11
Iron ore	3.71	---	3.71	7.21	.16	7.37	4.05	.01	4.06
Lead	11.64	12.34	23.98	10.37	4.31	14.68	10.41	4.59	15.00
Manganese ore	14.50	23.00	37.50	13.90	21.87	35.77	13.93	21.93	35.86
Manganiferous ore	2.26	---	2.26	---	---	---	2.26	---	2.26
Mercury	18.82	2.48	21.30	41.14	---	41.14	28.51	1.40	29.91
Molybdenum	3.27	---	3.27	5.84	.25	6.09	5.34	.20	5.54
Platinum-group metals	.36	---	.36	---	---	---	.36	---	.36
Silver	1.98	1.17	3.15	35.31	6.69	42.00	21.38	4.38	25.76
Titanium: Ilmenite	.72	.26	.98	---	---	---	.72	.26	.98
Tungsten	---	---	---	29.13	3.52	32.65	29.13	3.52	32.65
Uranium	17.62	.13	17.75	16.85	.30	17.15	17.13	.24	17.37
Zinc	10.76	2.45	13.21	11.68	3.44	15.12	11.63	3.39	15.02
Total	3.95	.18	4.13	8.72	1.26	9.98	4.77	.37	5.14
Nonmetals:									
Abrasive stone	105.75	15.50	121.25	---	---	---	105.75	15.50	121.25
Asbestos	7.37	.01	7.38	8.92	---	8.92	7.43	.01	7.44
Barite	1.46	---	1.46	6.36	---	6.36	1.60	---	1.60
Clays	3.74	.01	3.75	9.34	.04	9.38	3.89	.01	3.90
Diatomite	35.70	---	35.70	---	---	---	35.70	---	35.70
Emery	19.09	---	19.09	---	---	---	19.09	---	19.09
Feldspar	4.30	.41	4.71	---	---	---	4.30	.41	4.71
Fluorspar	11.75	4.90	16.65	12.80	5.55	18.35	12.74	5.52	18.26
Garnet	25.38	---	25.38	---	---	---	25.38	---	25.38
Graphite	303.66	---	303.66	---	---	---	303.66	---	303.66
Gypsum	3.43	---	3.43	4.41	---	4.41	3.68	---	3.68
Kyanite	7.85	.19	8.04	---	---	---	7.85	.19	8.04
Lithium minerals	5.68	.52	6.20	---	---	---	5.68	.52	6.20
Magnesite	3.10	.57	3.67	---	---	---	3.10	.57	3.67
Mica: Scrap	3.50	.20	3.70	3.50	---	3.50	3.50	.20	3.70
Olivine	13.62	---	13.62	---	---	---	13.62	---	13.63
Perlite	7.73	---	7.73	8.00	---	8.00	7.73	---	7.73
Phosphate rock	2.25	---	2.25	7.21	---	7.21	2.33	---	2.33
Potassium salts	---	---	---	5.35	.25	5.60	5.35	.25	5.60
Pumice	2.07	---	2.07	---	---	---	2.07	---	2.07

Pyrites	5.00	---	5.00	---	---	---	5.00	---	5.00
Salt	15.05	.61	15.66	6.08	.53	6.61	8.98	.55	9.53
Sand and gravel	1.05	---	1.05	---	---	---	1.05	---	1.05
Stone:									
Crushed and broken	1.41	---	1.41	1.96	---	1.96	1.43	---	1.43
Dimension	15.46	.48	15.94	14.98	.98	15.96	15.43	.52	15.95
Sulfur:									
Frasch	23.27	---	23.27	---	---	---	23.27	---	23.27
Other	3.00	---	3.00	---	---	---	3.00	---	3.00
Talc, soapstone, and pyrophyllite	6.14	---	6.14	7.28	---	7.28	6.81	---	6.81
Tripoli	3.18	---	3.18	4.21	---	4.21	3.60	---	3.60
Vermiculite	4.11	---	4.11	---	---	---	4.11	---	4.11
Total	1.62	.02	1.64	4.37	.20	4.57	1.73	.03	1.76
Grand total	2.03	.05	2.08	6.67	.76	7.43	2.33	.09	2.42
Total nonmetals (excluding stone, sand and gravel)	4.44	.17	4.61	6.34	.37	6.71	4.73	.20	4.93
Total metals and nonmetals (excluding stone, sand and gravel)	4.12	.18	4.30	7.95	.98	8.93	4.76	.31	5.07

1966. Both percentages were unchanged from those of the previous 3 years. Crude ore and total materials handled at metal mines by surface mining were 83 percent and 92 percent, respectively, an increase of 1 percent in each over the percentages in 1965. The most significant change by commodities occurred in molybdenum; the percentage of ore produced by surface mining rose from 1 percent to 19 percent and the percentage of materials handled at surface mines more than doubled. The changes were caused by an increased production at the Questa mine of Molybdenum Corporation of America. The percentage of ore produced and materials handled at silver mines by surface mining rose from 39 percent to 42 percent whereas total material handled from these mines dropped from 54 percent to 35 percent, respectively. Crude nonmetal materials and materials handled from surface mines remained at 96 percent and 97 percent, respectively, ratios unchanged for the past 8 years.

Underground mining continued to account for substantial percentages of ore produced in the same four States as in 1965, Colorado 36 percent (37 percent in 1965), Kentucky 20 percent (20 percent), Missouri 27 percent (26 percent) and New Mexico 41 percent (47 percent). Underground mining was not reported in 18 States (10 in 1965).

Magnitude of the Mining Industry.—Crude ore production was reported from 8,539 mines (8,600 in 1965), 1,631 metal mines (1,621 in 1965), and 6,908 nonmetal mines (6,979 in 1965)—exclusive of sand and gravel pits. Output of ore from individual mines ranged from 1 to more than 30 million tons. Total ore and waste handled at one metal mine approached 100 million tons. The number of metal mines that produced less than 1,000 tons increased from 747 in 1965 to 762, and the number of nonmetal mines in this class decreased from 627 to 604. The number of metal mines that handled more than 10 million tons in 1966 remained unchanged from that of 1965 at 10. The number of stone quarries and nonmetal mines in this class increased by 2. Output of ore and waste combined, exceeding 10 million tons, was reported at each of 30 metal and 14 nonmetal mines. In addition, 2 plants handled more than 10 million tons of brines.

Ratio of Ore to Marketable Product.—The ratio of ore to marketable product of most metals, gold and platinum excepted, remained virtually unchanged from that of 1964. The ratio of crude nonmetal materials to marketable product also remained essentially unchanged with few exceptions. A sharp increase in the ratio of material handled to marketable product at copper mines resulted from increased quantities of stripping required to expand existing open pit mines and to bring new operations into production.

Underground Mining Methods.—The percentage of ore of some commodities produced by different underground mining methods continued to vary widely. Ore produced by open stoping remained at 74 percent, but output from block caving methods dropped from 25 percent to 14 percent. All the bauxite, gypsum, tripoli, and wollastonite were extracted from naturally supported stopes. Large percentages of lead, uranium, zinc, and most of the nonmetals produced underground also were extracted by this method. The percentage of copper ore mined underground that was extracted by caving increased from 48 percent to 54 percent and the ratio of iron ore produced by this method increased from 38 percent to 43 percent.

Surface Mining.—Multiple bench mines accounted for most of the output of copper, lode gold, iron ore, nickel, and zinc. A large percentage of the ore produced in metal mining—principally bauxite, copper, iron ore, molybdenum, and zinc—required blasting prior to loading. Open pit and single bench mines provided a large percentage of the output of nonmetals—except boron minerals, diatomite, and lithium minerals. Aplite, clays, diatomite, perlite, phosphate rock, sand and gravel, and dimension stone were among nonmetals mined with little or no blasting.

Exploration and Development.—The reported footage for exploration and development of metal and nonmetal commodities was 13.6 million feet, about three-fourths of that reported in 1965. Notable increases for uranium (2,934,000 tc 5,417,000) and copper (from 1,089,000 tc 1,400,000) did not offset decreases for iron ore (2,919,000 to 1,537,000), lead (1,261,000 to 701,000), and zinc (1,737,000 to 737,000). As a result, exploration and development

Table 4.—Crude ore and total material handled at surface and underground mines, by commodities in 1966

(Percent)

Commodity	Crude ore		Total material	
	Surface	Underground	Surface	Underground
Metals:				
Bauxite	90	10	93	7
Beryllium	100	---	100	---
Copper	86	14	95	5
Gold:				
Lode	39	61	79	21
Placer	100	---	100	---
Iron ore	91	9	95	5
Lead	---	100	3	97
Manganese ore	---	100	---	100
Manganiferous ore	100	---	100	---
Mercury	56	44	77	23
Molybdenum	19	81	51	49
Nickel	100	---	100	---
Rare-earth metals and thorium	100	---	100	---
Silver	42	58	35	65
Titanium: Ilmenite	100	---	100	---
Tungsten	---	100	---	100
Uranium	24	76	88	12
Zinc	3	97	7	93
Total	83	17	92	8
Nonmetals:				
Abrasives:				
Emery	100	---	100	---
Garnet	100	---	100	---
Tripoli	44	56	59	41
Asbestos	96	4	98	2
Barite	97	3	98	2
Boron minerals	100	---	100	---
Clays	97	3	99	1
Diatomite	100	---	100	---
Feldspar	100	---	100	---
Fluorspar	3	97	7	93
Graphite	100	---	100	---
Gypsum	75	25	88	12
Kyanite	100	---	100	---
Lithium minerals	100	---	100	---
Magnesite	100	---	100	---
Marl, greensand	100	---	100	---
Mica: Scrap	100	---	100	---
Olivine	100	---	100	---
Perlite	100	---	100	---
Phosphate rock	98	2	99	1
Potassium salts	---	100	---	100
Pumice	100	---	100	---
Salt	32	68	32	68
Sand and gravel	100	---	100	---
Sodium carbonate (natural)	---	100	---	100
Sodium sulfate (natural)	100	---	100	---
Stone:				
Crushed and broken	96	4	96	4
Dimension	95	5	94	6
Sulfur: Frasch-process mines	100	---	100	---
Talc, soapstone, and pyrophyllite	41	59	63	37
Vermiculite	100	---	100	---
Wollastonite	12	88	12	88
Total	96	4	97	3
Grand total	94	6	95	5

Table 5.—Crude ore and total material handled at surface and underground mines, by States, in 1966

(Percent)

State	Crude ore		Total material	
	Surface	Under-ground	Surface	Under-ground
Alabama	95	5	97	3
Alaska	100	---	100	---
Arizona	87	13	96	4
Arkansas	97	3	97	3
California	99	1	99	1
Colorado	64	36	63	37
Connecticut	100	---	100	---
Delaware	100	---	100	---
Florida	100	---	100	---
Georgia	98	2	99	1
Hawaii	100	---	100	---
Idaho	90	10	94	6
Illinois	96	4	96	4
Indiana	98	2	98	2
Iowa	96	4	96	4
Kansas	91	9	92	8
Kentucky	80	20	82	18
Louisiana	90	10	90	10
Maine	100	---	100	---
Maryland	100	---	100	---
Massachusetts	100	---	100	---
Michigan	88	12	89	11
Minnesota	99	1	100	---
Mississippi	100	---	100	---
Missouri	73	27	74	26
Montana	91	9	91	9
Nebraska	100	---	100	---
Nevada	99	1	99	1
New Hampshire	100	---	100	---
New Jersey	99	1	99	1
New Mexico	59	41	74	26
New York	93	7	93	7
North Carolina	100	---	100	---
North Dakota	100	---	100	---
Ohio	95	5	95	5
Oklahoma	94	6	94	6
Oregon	100	---	100	---
Pennsylvania	91	9	91	9
Rhode Island	100	---	100	---
South Carolina	100	---	100	---
South Dakota	89	11	88	12
Tennessee	89	11	89	11
Texas	100	---	100	---
Utah	95	5	97	3
Vermont	97	3	95	5
Virginia	95	5	94	6
Washington	98	2	98	2
West Virginia	84	16	86	14
Wisconsin	99	1	98	2
Wyoming	82	18	93	7
Total	94	6	95	5

Table 6.—Number of domestic and nonmetal mines in 1966, by commodity and magnitude of crude ore production

Commodity	Total number of mines	Less than 1,000 tons	1,000 to 10,000 tons	10,000 to 100,000 tons	100,000 to 1,000,000 tons	1,000,000 to 10,000,000 tons	More than 10,000,000 tons
Metals:							
Antimony	9	9	---	---	---	---	---
Bauxite	14	---	4	6	4	---	---
Beryllium	9	6	3	---	---	---	---
Copper	131	57	18	15	18	18	5
Gold:							
Lode	102	92	2	4	2	2	---
Placer	152	64	62	18	6	1	1
Iron ore	147	7	15	30	56	36	3
Lead	116	84	15	8	8	1	---
Manganese ore	5	---	---	5	---	---	---
Manganiferous ore	7	---	1	2	4	---	---
Mercury	129	105	13	11	---	---	---
Molybdenum	3	---	1	---	---	1	1
Silver	91	72	12	5	2	---	---
Tin	3	3	---	---	---	---	---
Titanium concentrates	6	---	---	---	1	5	---
Tungsten	9	4	3	1	1	---	---
Uranium	489	234	106	57	92	---	---
Zinc	203	23	51	36	93	---	---
Other [1]	6	2	---	2	1	1	---
Total	1,631	762	306	200	288	65	10
Nonmetals:							
Abrasives [2]	10	3	3	4	---	---	---
Asbestos	10	---	4	3	2	1	---
Barite	48	5	10	16	16	1	---
Boron minerals	3	1	---	---	---	2	---
Clays	1,245	68	309	702	165	1	---
Diatomite	14	3	3	4	4	---	---
Feldspar	60	28	9	17	6	---	---
Fluorspar	20	7	8	2	3	---	---
Gypsum	78	6	10	28	34	---	---
Kyanite	4	---	---	---	4	---	---
Marl, greensand	2	1	1	---	---	---	---
Mica	21	5	4	10	2	---	---
Olivine	5	1	2	2	---	---	---
Perlite	17	4	8	3	2	---	---
Phosphate rock	60	1	3	10	24	21	1
Potassium salts	11	---	---	---	4	7	---
Pumice	149	28	36	69	16	---	---
Salt	56	1	12	13	26	4	---
Sodium carbonate (natural)	2	---	---	---	1	1	---
Stone:							
Crushed and broken	4,417	189	416	1,366	2,088	355	3
Dimension	577	233	244	85	15	---	---
Sulfur:							
Frasch-process mines	11	---	---	---	8	3	---
Other mines	2	2	---	---	---	---	---
Talc, soapstone, and pyrophyllite	71	18	31	21	1	---	---
Vermiculite	4	---	1	1	2	---	---
Wollastonite	4	---	3	---	1	---	---
Other [3]	7	---	2	1	4	---	---
Total	6,908	604	1,119	2,357	2,428	396	4
Grand total	8,539	1,366	1,425	2,557	2,716	461	14

[1] Magnesium, nickel, rare-earth metals, and zirconium.
[2] Emery, garnet, and tripoli.
[3] Aplite, graphite, lithium minerals, magnesite, and sodium sulfate (natural).

Table 7.—Twenty-five leading metal and nonmetal[1] mines in the United States in 1966 in order of output of ore

Mine	State	Operator	Commodity	Mining method
Metals:				
Peter Mitchell	Minn.	Reserve Mining Co.	Iron ore	Open pit.
Utah Copper	Utah	Kennecott Copper Corp.	Copper	Do.
Erie	Minn.	Pickands Mather & Co.	Iron ore	Do.
Yuba Unit	Calif.	Yuba Industries, Inc.	Placer gold	Dredging.
Morenci	Ariz.	Phelps Dodge Corp.	Copper	Open pit.
Berkeley Pit	Mont.	The Anaconda Company	do.	Do.
Climax	Colo.	American Metals Climax, Inc.	Molybdenum	Caving.
San Manuel	Ariz.	Magma Copper Co.	Copper	Do.
Eagle Mountain	Calif.	Kaiser Steel Corp.	Iron ore	Open pit.
New Cornelia	Ariz.	Phelps Dodge Corp.	Copper	Do.
Ray Pit	do.	Kennecott Copper Corp.	do.	Do.
Highland	Fla.	E. I. du Pont de Nemours & Co., Inc.	Ilmenite	Dredging.
Chino	N. Mex.	Kennecott Copper Corp.	Copper	Open pit.
Republic	Mich.	Cleveland-Cliffs Iron Co.	Iron ore	Do.
Liberty Pit	Nev.	Kennecott Copper Corp.	Copper	Do.
Lawtey	Fla.	E. I. du Pont de Nemours & Co., Inc.	Ilmenite	Dredging.
Yerington	Nev.	The Anaconda Company	Copper	Open pit.
White Pine	Mich.	White Pine Copper Co.	do.	Open stopes.
Inspiration	Ariz.	Inspiration Consolidated Copper Co.	do.	Open pit.
Sherman	Minn.	United States Steel Corp.	Iron ore	Do.
Lavender Pit	Ariz.	Phelps Dodge Corp.	Copper	Do.
Empire	Mich.	Cleveland-Cliffs Iron Co.	Iron ore	Do.
Pima & Northeast	Ariz.	Pima Mining Co.	Copper	Do.
Mission	do.	American Smelting and Refining Company.	do.	Do.
Stephens	Minn.	United States Steel Corp.	Iron ore	Do.
Nonmetals:				
Noralyn	Fla.	International Minerals & Chemical Corp.	Phosphate rock	Open pit.
Palmetto	do.	Agrico Chemical Co.	do.	Do.
Kingsford	do.	International Minerals & Chemical Corp.	do.	Do.
Payne Creek	do.	Agrico Chemical Co.	do.	Do.
Bonny Lake	do.	W. R. Grace & Co.	do.	Do.
Homeland	do.	Mobil Chemical Co.	do.	Do.
International	N. Mex.	International Minerals & Chemical Corp.	Potassium salts	Open stopes.
Suwannee River	Fla.	Occidental Corporation of Florida	Phosphate rock	Open pit.
Clear Springs	do.	Mobil Chemical Co.	do.	Do.
Achan	do.	International Minerals & Chemical Corp.	do.	Do.
Sydney	do.	American Cyanamid Co.	do.	Do.
Silver Peak	Nev.	Foote Mineral Co.	Lithium	Do.
Orange Park	Fla.	American Cyanamid Co.	Phosphate rock	Do.
Tenoroc	do.	Borden Chemical Co.	do.	Do.
Watson	do.	Swift & Co.	do.	Do.
Libby	Mont.	Zonolite Division, W. R. Grace & Co.	Vermiculite	Do.
	N. Mex.	Potash Company of America	Potassium salts	Open stopes.
Bartow	Fla.	Armour Agricultural Chemical Co.	Phosphate rock	Open pit.
Shafts 1 and 2	N. Mex.	Southwest Potash Co.	Potassium salts	Open stopes.
Lake Hancock	Fla.	Armour Agricultural Chemical Co.	Phosphate rock	Open pit.
Carlsbad	N. Mex.	United States Borax & Chemical Corp	Potassium salts	Open stopes.
Retsof	N. Y.	International Salt Co.	Salt	Do.
Gay	Idaho	J. R. Simplot Co.	Phosphate rock	Open pit.
Lee Creek	N. C.	Texas Gulf Sulphur Co.	do.	Dredging.
Silver City	Fla.	Swift & Co.	do.	Open pit.

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[1] Sand and gravel, stone, brines and materials from wells, etc., excepted.

Table 8.—Twenty-five leading metal and nonmetal [1] mines in the United States in 1966 in order of total materials handled

Mine	State	Operator	Commodity	Mining method
Metals:				
Utah Copper	Utah	Kennecott Copper Corp	Copper	Open pit.
Eagle Mountain	Calif	Kaiser Steel Corp	Iron ore	Do.
Erie	Minn	Pickands Mather & Co	do	Do.
Twin Buttes	Ariz	The Anaconda Company	Copper	Do.
Morenci	do	Phelps Dodge Corp	do	Do.
Peter Mitchell	Minn	Reserve Mining Co	Iron ore	Do.
Berkeley Pit	Mont	The Anaconda Company	Copper	Do.
Mission	Ariz	American Smelting and Refining Company.	do	Do.
Lavender Pit	do	Phelps Dodge Corp	do	Do.
Chino	N. Mex	Kennecott Copper Corp	do	Do.
Pima & Northeast	Ariz	Pima Mining Co	do	Do.
Ray Pit	do	Kennecott Copper Corp	do	Do.
New Cornelia	do	Phelps Dodge Corp	do	Do.
Yuba Unit	Calif	Yuba Industries, Inc	Placer gold	Dredging.
Yerington	Nev	The Anaconda Company	Copper	Open pit.
Questa	N. Mex	Molybdenum Corporation of America	Molybdenum	Do.
Sherman	Minn	United States Steel Corp	Iron ore	Do.
Climax	Colo	American Metals Climax, Inc	Molybdenum	Caving.
Inspiration	Ariz	Inspiration Consolidated Copper Co	Copper	Open pit.
San Manuel	do	Magma Copper Co	do	Caving.
Mineral Park	do	Duval Corp	do	Open pit.
Esperanza	do	do	do	Do.
Copper Cities	do	Tennessee Corp	do	Do.
Liberty Pit	Nev	Kennecott Copper Corp	do	Do.
Pilotac	Minn	United States Steel Corp	Iron ore	Do.
Nonmetals:				
Noralyn	Fla	International Minerals & Chemical Corp.	Phosphate rock	Open pit.
Palmetto	do	Agrico Chemical Co	do	Do.
Payne Creek	do	do	do	Do.
Kingsford	do	International Minerals & Chemical Corp.	do	Do.
Bonny Lake	do	W. R. Grace & Co	do	Do.
Homeland	do	Mobil Chemical Co	do	Do.
Orange Park	do	American Cyanamid Co	do	Do.
Clear Springs	do	Mobil Chemical Co	do	Do.
Sydney	do	American Cyanamid Co	do	Do.
Tenoroc	do	Borden Chemical Co	do	Do.
Achan	do	International Minerals & Chemical Corp.	do	Do.
Gay	Idaho	J. R. Simplot Co	do	Do.
Huber	Ga	J. M. Huber Corp	Clay	Do.
DeBely	Calif	United States Borax & Chemical Corp.	Boron	Do.
Watson	Fla	Swift & Co	Phosphate rock	Do.
Chicora	do	American Cyanamid Co	do	Do.
Griffin	Ga	Freeport Kaolin Co	Clay	Do.
Boyette	Fla	American Agricultural Chemical Co	Phosphate rock	Do.
International	N. Mex	International Minerals & Chemical Corp	Potassium salts	Open stopes
Mabie Canyon	Idaho	El Paso Products Co	Phosphate rock	Open pit.
Bartow	Fla	Armour Agricultural Chemical Co	do	Do.
Suwannee River	do	Occidental Corporation of Florida	do	Do.
Lake Hancock	do	Armour Agricultural Chemical Co	do	Do.
Conda	Idaho	J. R. Simplot Co	do	Do.
Lompoc	Calif	Johns-Mansville Products Corp	Diatomite	Do.

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[1] Sand and gravel, stone, brines and material from wells excepted.

Table 9.—Twenty leading plants in the United States in 1966 that produced nonmetallics from brines and other materials from lakes, ponds, seas or wells, in order of output of raw material

Plant	State	Operator	Commodity
Moss Landing	Calif	Kaiser Aluminum & Chemical Corp	Magnesium compounds.
Cape May	N. J.	Northwest Magnesite Co	Do.
Port St. Joe	Fla	Michigan Chemical Corp	Do.
Trona	Calif	American Potash & Chemical Corp	Sodium carbonate.
South San Francisco	do	Merck and Co., Inc	Magnesium compounds.
West End	do	Stauffer Chemical Co	Sodium carbonate.
Freeport	Tex	The Dow Chemical Co	Salt brine.
Arkansas Chemical	Ark	Arkansas Chemicals Inc	Bromine.
El Dorado	do	Great Lakes Chemical Co	Do.
Wyandotte	Mich	Wyandotte Chemical Corp	Salt brine.
Grand Isle	La	Freeport Sulphur Co	Frasch sulfur.
Onondaga	N. Y.	Solvay Process Division, Allied Chemical Corp.	Salt brine.
Boling Dome	Tex	Texas Gulf Sulphur Co	Frasch sulfur.
Freeport	do	Ethyl-Dow Chemical Co	Bromine.
Grand Ecaille	La	Freeport Sulphur Co	Frasch sulfur.
Iberville	do	Allied Chemical Corp	Salt brine.
Painesville	Ohio	Diamond Alkali Co	Do.
Plaquemines	La	The Dow Chemical Co	Do.
Barberton	Ohio	Pittsburgh Plate Glass Co	Do.
Manistee	Mich	Standard Lime and Refractories Co	Magnesium compounds.

Table 10.—Ore treated or sold per unit of marketable product at surface and underground mines in the United States, by commodities, in 1966

Commodity	Unit of marketable product	Surface			Underground			Total		
		Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product	Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product	Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product
Metals:										
Bauxite	Thousand long tons	2,167	1,612	1.4:1	232	174	1.3:1	2,399	1,786	1.4:1
Copper	Thousand short tons	158,132	1,103	143.4:1	28,718	287	100.1:1	186,850	1,390	134.5:1
Gold:										
Lode	Thousand troy ounces	1,483	339	4.0:1	2,277	754	3.1:1	3,760	1,093	3.4:1
Placer	do	27,008	90	299.8:1	---	---	---	27,008	90	299.8:1
Iron ore	Thousand long tons	186,753	74,687	2.5:1	19,339	13,724	1.5:1	206,092	88,411	2.3:1
Lead	Thousand short tons	249	9	27.6:1	6,714	230	29.2:1	6,963	239	29.1:1
Manganiferous ore	do	976	318	3.1:1	---	---	---	976	318	3.1:1
Mercury	Thousand flasks	200	8	24.1:1	152	21	7.0:1	352	29	11.8:1
Nickel	Thousand short tons	1,044	15	69.6:1	---	---	---	1,044	15	69.6:1
Platinum-group metals	Thousand troy ounces	2,437	8	304.6:1	---	---	---	2,437	8	304.6:1
Rare-earth minerals	Thousand short tons	20	6	3.3:1	---	---	---	20	6	3.3:1
Silver	Thousand troy ounces	356	552	.64:1	499	13,626	.03:1	855	14,178	.06:1
Titanium-Ilmenite	Thousand short tons	24,367	867	28.0:1	---	---	---	24,367	867	28.0:1
Uranium	do	998	1,566	1.0:1	3,062	2,786	1.0:1	4,060	4,352	1.0:1
Zinc	do	608	22	27.6:1	11,296	454	24.9:1	11,904	476	25.0:1
Nonmetals:										
Aplite	Thousand long tons	607	142	4.2:1	---	---	---	607	142	4.2:1
Asbestos	Thousand short tons	1,465	123	11.6:1	57	3	19.0:1	1,522	126	11.8:1
Barite	do	7,028	805	8.5:1	199	142	1.4:1	7,227	947	7.4:1
Boron minerals	do	10,553	797	13.3:1	---	---	---	10,553	797	13.3:1
Clays	do	55,360	51,091	1.1:1	1,486	1,464	1.0:1	56,846	52,555	1.1:1
Emery	do	11	11	1.0:1	---	---	---	11	11	1.0:1
Feldspar	Thousand long tons	1,484	609	2.4:1	---	---	---	1,484	609	2.4:1
Fluorspar	Thousand short tons	42	19	2.2:1	681	213	3.5:1	723	232	3.4:1
Garnet	do	81	19	4.3:1	---	---	---	81	19	4.3:1
Gypsum	do	7,242	6,908	1.0:1	2,416	2,416	1.0:1	9,658	9,324	1.0:1
Kyanite	do	537	84	6.4:1	---	---	---	537	84	6.4:1
Magnesite	do	748	703	1.0:1	---	---	---	748	703	1.0:1
Mica, scrap	do	871	77	11.3:1	---	---	---	871	77	11.3:1
Olivine	do	84	49	1.7:1	---	---	---	84	49	1.7:1
Perlite	do	546	401	1.3:1	3	3	1.0:1	549	404	1.3:1
Phosphate rock	Thousand long tons	111,409	33,578	3.3:1	1,798	1,287	1.4:1	113,207	34,865	3.2:1
Potassium salts	Thousand short tons	---	---	---	21,320	3,122	6.8:1	21,320	3,122	6.8:1
Pumice	do	3,260	3,240	1.0:1	---	---	---	3,260	3,240	1.0:1
Salt	do	4,862	4,702	1.0:1	10,269	9,062	1.1:1	15,131	13,764	1.1:1
Sand and gravel	do	934,605	934,605	1.0:1	---	---	---	934,605	934,605	1.0:1
Sodium carbonate (natural)	do	---	---	---	2,346	1,373	1.7:1	2,346	1,373	1.7:1

Table 10.—Ore treated or sold per unit of marketable product at surface and underground mines in the United States, by commodities, in 1966—Continued

Commodity	Unit of marketable product	Surface			Underground			Total		
		Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product	Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product	Ore (thousand short tons)	Marketable product, units	Ratio of units of ore to units of marketable product
Nonmetals—Continued										
Stone:										
Dimension	Thousand short tons	5,360	2,204	2.4:1	394	39	10.1:1	5,754	2,243	2.5:1
Crushed and broken	do	773,219	765,297	1.0:1	35,382	35,300	1.0:1	808,601	800,597	1.0:1
Sulfur:										
Frasch	Thousand long tons	7,841	7,721	1.1:1	---	---	---	7,841	7,721	1.1:1
Other	do	1	1	1.0:1	---	---	---	1	1	1.0:1
Talc, soapstone, and pyrophyllite	Thousand short tons	383	375	1.0:1	557	497	1.1:1	940	872	1.1:1
Tripoli	do	54	29	1.9:1	37	37	1.0:1	91	66	1.4:1
Vermiculite	do	1,205	262	4.6:1	---	---	---	1,205	262	4.6:1

Table 11.—Material handled per unit of marketable product at surface and underground mines in the United States, by commodities, in 1966

Commodity	Unit of marketable product	Surface			Underground			Total		
		Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product	Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product	Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product
Metals:										
Bauxite	Thousand long tons	2,832	1,612	1.8:1	232	174	1.3:1	3,064	1,786	1.7:1
Copper	Thousand short tons	529,342	1,103	479.9:1	29,185	287	101.7:1	558,527	1,390	401.8:1
Gold:										
Lode	Thousand troy ounces	9,770	339	28.8:1	2,593	754	3.4:1	12,363	1,093	11.3:1
Placer	do	29,510	90	327.9:1	---	---	---	29,510	90	327.9:1
Iron ore	Thousand long tons	392,174	74,687	5.3:1	21,869	13,724	1.6:1	414,043	88,411	4.7:1
Lead	Thousand short tons	252	9	28.0:1	7,374	230	32.1:1	7,626	239	31.9:1
Manganiferous ore	do	1,638	318	5.2:1	---	---	---	1,638	318	5.2:1
Mercury	Thousand flasks	910	8	113.8:1	271	21	12.9:1	1,181	29	40.7:1
Nickel	Thousand short tons	1,445	15	96.3:1	---	---	---	1,445	15	96.3:1
Platinum-group metals	Thousand troy ounces	2,839	8	354.9:1	---	---	---	2,839	8	354.9:1
Rare-earth minerals	Thousand short tons	21	6	3.5:1	---	---	---	21	6	3.5:1
Silver	Thousand troy ounces	377	552	.68:1	715	13,626	.05:1	1,092	14,178	.07:1
Titanium: Ilmenite	Thousand short tons	29,264	867	33.8:1	---	---	---	29,264	867	33.8:1
Uranium	do	27,898	1,566	17.8:1	4,013	2,786	1.4:1	31,911	4,352	7.3:1
Zinc	do	935	22	42.5:1	12,692	454	28.0:1	13,627	476	28.6:1
Nonmetals:										
Aplite	Thousand long tons	619	142	4.4:1	---	---	---	619	142	4.4:1
Asbestos	Thousand short tons	2,545	123	20.7:1	60	3	20.0:1	2,605	126	20.7:1
Barite	do	8,722	805	10.8:1	199	142	1.4:1	8,921	947	9.4:1
Boron minerals	do	18,108	797	22.7:1	---	---	---	18,108	797	22.7:1
Clays	do	107,349	51,091	2.1:1	1,496	1,464	1.0:1	108,845	52,555	2.1:1
Emery	do	11	11	1.0:1	---	---	---	11	11	1.0:1
Feldspar	Thousand long tons	1,643	609	2.7:1	---	---	---	1,643	609	2.7:1
Fluorspar	Thousand short tons	52	19	2.2:1	707	213	3.3:1	759	232	3.3:1
Garnet	do	283	19	14.9:1	---	---	---	283	19	14.9:1
Gypsum	do	17,692	6,908	2.6:1	2,416	2,416	1.0:1	20,108	9,324	2.2:1
Kyanite	do	921	84	11.0:1	---	---	---	921	84	11.0:1
Magnesite	do	1,801	703	2.6:1	---	---	---	1,801	703	2.6:1
Mica, scrap	do	905	77	11.8:1	---	---	---	905	77	11.8:1
Olivine	do	84	49	1.7:1	---	---	---	84	49	1.7:1
Perlite	do	653	401	1.6:1	3	3	1.0:1	656	404	1.6:1
Phosphate rock	Thousand long tons	330,191	33,578	9.8:1	1,805	1,287	1.4:1	331,996	34,865	9.5:1
Potassium salts	Thousand short tons	---	---	---	22,959	3,122	6.8:1	22,959	3,122	6.8:1
Pumice	do	3,435	3,240	1.1:1	---	---	---	3,435	3,240	1.1:1
Salt	do	4,962	4,702	1.1:1	10,605	9,062	1.2:1	15,567	13,764	1.1:1
Sand and gravel	do	934,605	934,605	1.0:1	---	---	---	934,605	934,605	1.0:1
Sodium carbonate (natural)	do	---	---	---	2,347	1,373	1.7:1	2,347	1,373	1.7:1

Table 11.—Material handled per unit of marketable product at surface and underground mines in the United States, by commodities, in 1966—Continued

Commodity	Unit of marketable product	Surface			Underground			Total		
		Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product	Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product	Total material handled (thousand short tons)	Marketable product, units	Ratio of units of material handled to units of marketable product
Nonmetals—Continued										
Stone:										
Dimension	Thousand short tons	6,655	2,204	3.0:1	465	39	11.9:1	7,120	2,243	3.2:1
Crushed and broken	do	836,505	765,297	1.1:1	35,597	35,300	1.0:1	872,102	800,597	1.1:1
Sulfur:										
Frasch	Thousand long tons	7,841	7,721	1.0:1	---	---	---	7,841	7,721	1.0:1
Other	do	1	1	1.0:1	---	---	---	1	1	1.0:1
Talc, soapstone, and pyrophyllite	Thousand short tons	1,007	375	2.7:1	588	497	1.2:1	1,595	872	1.8:1
Tripoli	do	54	29	1.9:1	37	37	1.0:1	91	66	1.4:1
Vermiculite	do	4,195	262	16.0:1	---	---	---	4,195	262	16.0:1

footage for metals decreased from 11.9 million feet to 10.9 million feet. Sharp drops in exploration for many nonmetals and more moderate decreases for others resulted in a change from 6,793,000 feet in 1965 to 2,664,000 in 1966.

An increase of 19 percent in footage of shaft sinking was more than offset by decreases of 15 percent in raising and 3 percent in drifting. As a result, total exploration by mine working decreased 5 percent.

The reported increase of 15 percent in diamond drilling was more than offset by decreases of 6 percent and 5 percent respectively in churn and rotary drilling and a sharp drop of 61 percent in percussion drilling. As a result, total footage reported for drilling fell from 17.0 million feet to 11.8 million feet.

More than 99 percent of 462 million tons of ore and waste removed during exploration and development was by stripping. About 40 percent of the stripping was handled at metal mines and 80 percent was removed from deposits of copper, iron ore, and phosphate rock.

Table 12.—Mining methods used in underground operations, by commodities

(Percent)

Commodity	Open stoping				Block caving		Other and unspecified	
	Natural support		Artificial support					
	1965	1966	1965	1966	1965	1966	1965	1966
Metals:								
Bauxite	100.0	100.0	---	---	---	---	---	---
Copper	42.0	36.5	8.8	9.8	48.3	53.5	0.9	0.2
Gold: Lode	20.4	65.0	13.8	30.5	64.6	---	1.2	4.5
Iron ore	61.6	45.5	---	---	38.4	43.2	---	11.3
Lead	70.2	80.5	12.3	19.5	15.9	---	1.6	---
Manganese ore	.6	.1	---	70.9	99.0	---	.4	29.0
Mercury	64.3	33.8	8.5	36.0	22.0	---	5.2	30.2
Molybdenum	2.2	1.0	---	---	97.7	---	.1	99.0
Silver	44.3	9.3	9.7	82.6	45.2	---	.8	8.1
Uranium	66.6	61.6	---	37.4	33.4	1.0	---	---
Zinc	74.9	81.4	10.7	16.6	13.1	.1	1.3	1.9
Nonmetals:								
Asbestos	79.5	95.0	20.5	5.0	---	---	---	---
Barite	45.0	.1	---	53.2	55.0	---	---	46.7
Clays	94.6	95.1	.3	4.9	5.1	---	---	---
Fluorspar	77.5	80.0	16.1	19.9	1.5	---	4.9	.1
Gypsum	94.0	100.0	---	---	---	---	6.0	---
Phosphate rock	69.4	93.6	---	6.4	---	---	30.6	---
Potassium salts	100.0	94.4	---	---	---	---	---	5.6
Pyrites	7.1	---	.9	---	92.0	---	---	---
Salt	94.8	96.5	---	---	---	---	5.2	3.5
Sodium carbonate (natural)	30.9	59.1	---	---	69.1	---	---	40.9
Stone:								
Crushed and broken	99.3	99.6	.3	.4	.4	---	---	---
Dimension	97.0	98.1	---	---	3.0	1.9	---	---
Talc, soapstone, and pyrophyllite	67.6	70.6	1.0	17.8	18.2	.1	13.2	11.5
Tripoli	100.0	100.0	---	---	---	---	---	---
Wollastonite	100.0	100.0	---	---	---	---	---	---
Total	71.0	68.3	2.7	5.7	25.1	13.9	1.2	12.1

Table 13.—Mining methods used in underground operations, by States

(Percent)

State	Open stoping				Block caving		Other and unspecified	
	Natural support		Artificial support					
	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	98.8	100.0	---	---	1.2	---	---	---
Alaska	50.0	---	---	---	---	---	50.0	---
Arizona	8.1	2.9	2.6	8.9	89.3	88.2	---	---
Arkansas	90.2	84.4	---	8.3	9.8	---	---	7.3
California	77.9	79.3	9.2	14.4	5.5	---	7.4	6.3
Colorado	9.5	10.6	.2	3.4	90.3	86.0	---	---
Georgia	98.5	98.4	---	1.6	1.5	---	---	---
Idaho	3.3	5.3	82.6	84.3	2.0	.7	12.1	9.7
Illinois	93.9	96.6	2.8	3.4	2.3	---	1.0	---
Indiana	100.0	100.0	---	---	---	---	---	---
Iowa	100.0	100.0	---	---	---	---	---	---
Kansas	100.0	100.0	---	---	---	---	---	---
Kentucky	99.3	99.0	---	.3	.7	---	---	.7
Louisiana	93.1	100.0	---	---	---	---	6.9	---
Maine	87.4	---	---	---	12.6	100.0	---	---
Maryland	100.0	100.0	---	---	---	---	---	---
Massachusetts	100.0	100.0	---	---	---	---	---	---
Michigan	87.7	77.4	---	.1	12.3	16.9	---	5.6
Minnesota	100.0	---	---	---	---	---	---	100.0
Missouri	100.0	100.0	---	---	---	---	---	---
Montana	26.7	33.6	35.6	66.2	25.7	---	12.0	.2
Nevada	77.4	60.5	6.6	6.8	.8	---	15.2	32.7
New Jersey	76.1	38.3	17.3	50.0	5.9	---	.7	11.7
New Mexico	94.5	89.7	---	4.9	5.5	---	---	5.4
New York	92.0	94.2	---	.1	.1	---	7.9	5.7
North Carolina	29.1	.1	15.7	91.6	55.2	8.3	---	---
Ohio	100.0	100.0	---	---	---	---	---	---
Oklahoma	100.0	100.0	---	---	---	---	---	---
Oregon	100.0	100.0	---	---	---	---	---	---
Pennsylvania	42.7	42.5	---	---	57.3	57.5	---	---
South Dakota	78.4	76.2	21.6	23.8	---	---	---	---
Tennessee	100.0	100.0	---	---	---	---	---	---
Texas	100.0	98.9	---	1.1	---	---	---	---
Utah	69.4	75.4	9.9	24.6	20.7	---	---	---
Vermont	84.9	67.3	---	11.1	15.1	---	---	21.6
Virginia	91.4	100.0	---	---	---	---	8.6	---
Washington	12.2	80.8	44.8	8.7	---	---	43.0	10.5
West Virginia	100.0	100.0	---	---	---	---	---	---
Wisconsin	100.0	98.1	---	---	---	---	---	1.9
Wyoming	31.9	47.2	---	1.7	68.1	27.6	---	23.5
Total	71.0	68.3	2.7	5.7	25.1	13.9	1.2	12.1

Table 14.—Kind of surface mining operation, by commodities, in 1966
(Percent of crude ore)

Commodity	Open pit	Single bench	Multiple bench
Metals:			
Bauxite	37	6	57
Copper	25	---	75
Gold: Lode	---	---	100
Iron ore	23	---	77
Manganiferous ore	100	---	---
Mercury	9	---	91
Nickel	---	---	100
Rare-earth metals and thorium	---	100	---
Tin	---	---	100
Titanium: Ilmenite	75	---	25
Uranium	81	---	19
Zinc	7	---	93
Nonmetals:			
Abrasives:			
Emery	36	64	---
Garnet	57	---	43
Tripoli	100	---	---
Aplite	85	---	15
Asbestos	75	---	25
Barite	87	1	12
Boron minerals	---	---	100
Clays	74	20	6
Diatomite	1	3	96
Feldspar	46	---	54
Fluorspar	70	---	30
Gypsum	66	29	5
Kyanite	12	---	88
Lithium minerals	---	---	100
Marl, greensand	100	---	---
Mica: Scrap	100	---	---
Olivine	100	---	---
Perlite	82	---	18
Phosphate rock	98	---	2
Pumice	93	4	3
Sand and gravel	100	---	---
Stone:			
Crushed and broken	63	9	28
Dimension	58	1	41
Talc, soapstone, and pyrophyllite	34	55	11
Vermiculite	19	---	81

Table 15.—Kind of surface mining operation, by States, in 1966

(Percent of crude ore)

State	Open pit	Single bench	Multiple bench
Alabama	92	2	6
Alaska	100	---	---
Arizona	34	---	66
Arkansas	92	2	6
California	56	1	43
Colorado	95	1	4
Connecticut	71	20	9
Delaware	89	---	11
Florida	100	---	---
Georgia	66	22	12
Hawaii	57	16	27
Idaho	79	4	17
Illinois	72	7	21
Indiana	68	7	25
Iowa	74	11	15
Kansas	97	3	---
Kentucky	81	5	14
Louisiana	100	---	---
Maine	100	---	---
Maryland	67	14	19
Massachusetts	84	1	15
Michigan	51	13	36
Minnesota	33	---	67
Mississippi	98	---	2
Missouri	89	2	9
Montana	88	1	11
Nebraska	94	---	6
Nevada	39	---	61
New Hampshire	99	---	1
New Jersey	82	2	16
New Mexico	28	1	71
New York	64	4	32
North Carolina	92	3	5
North Dakota	100	---	---
Ohio	81	4	15
Oklahoma	92	5	3
Oregon	96	1	3
Pennsylvania	68	7	25
Rhode Island	82	---	18
South Carolina	83	4	13
South Dakota	98	2	---
Tennessee	93	1	6
Texas	90	4	6
Utah	17	---	83
Vermont	90	---	10
Virginia	64	8	28
Washington	93	2	5
West Virginia	55	2	43
Wisconsin	86	2	12
Wyoming	70	---	30

Table 16.—Mining methods used in open pit mining, by commodities, in 1966

(Percent)

Commodity	Mechanical loading: Preceded by drilling and blasting	Mechanical loading: Not preceded by drilling and blasting	Other
Metals:			
Bauxite	95	5	---
Beryllium	69	31	---
Copper	97	3	---
Gold:			
Lode	31	69	---
Placer	---	100	---
Iron ore	78	22	---
Lead	33	67	---
Manganiferous ore	93	7	---
Mercury	68	32	---
Molybdenum	100	---	---
Nickel	27	73	---
Platinum-group metals	---	100	---
Rare-earth metals	91	9	---
Silver	77	23	---
Titanium: Ilmenite	22	78	---
Uranium	1	99	---
Zinc	100	---	---
Nonmetals:			
Abrasive stone	14	---	86
Aplite	15	85	---
Asbestos	68	32	---
Barite	12	88	---
Clays	20	79	1
Diatomite	---	100	---
Emery	100	---	---
Feldspar	75	20	5
Fluorspar	39	61	---
Graphite	100	---	---
Gypsum	86	14	---
Kyanite	79	21	---
Lithium minerals	100	---	---
Magnesite	100	---	---
Marl, greensand	33	---	67
Mica: Scrap	4	96	---
Olivine	43	57	---
Perlite	47	53	---
Phosphate rock	1	97	2
Pumice	---	100	---
Sand and gravel	---	100	---
Sodium sulfate (natural)	---	100	---
Stone:			
Crushed and broken	92	5	3
Dimension	21	9	70
Sulfur:			
Frasch-process mines	---	---	100
Other mines	---	100	---
Talc, soapstone, and pyrophyllite	57	43	---
Vermiculite	57	43	---
Wollastonite	43	57	---
Total	51	46	3

Table 17.—Comparison of ores of selected commodities that required blasting at surface mines

(Percent)

Commodity	1961	1964	1966
Metals:			
Bauxite	96	94	95
Beryllium	96	---	69
Copper	96	96	97
Gold lode	---	50	31
Iron ore	77	83	78
Manganiferous ore	88	100	93
Mercury	67	81	68
Nickel	30	5	27
Rare-earth metals and thorium	100	100	91
Uranium	44	33	1
Nonmetals:			
Aplite	47	35	15
Asbestos	99	85	68
Barite	15	7	12
Boron minerals	97	97	---
Clays	25	18	20
Emery	100	100	100
Feldspar	78	60	75
Fluorspar	63	77	39
Gypsum	83	82	86
Kyanite	87	100	79
Lithium minerals	100	100	100
Magnesite	100	98	100
Mica-scrap	16	12	4
Perlite	36	16	47
Phosphate rock	1	1	1
Pumice	3	1	---
Stone:			
Crushed and broken	99	94	92
Dimension	22	28	21
Vermiculite	---	62	57

Table 18.—Exploration and development activity in the United States, by methods

Method	Metals		Nonmetals		Total	
	Feet	Percent of total	Feet	Percent of total	Feet	Percent of total
1965:						
Shaft and winze sinking	18,297	0.6	4,470	0.6	22,767	0.5
Raising	189,286	1.5	12,658	.1	201,944	1.0
Drifting and crosscutting	776,868	6.5	159,097	2.3	935,965	5.0
Diamond drilling	2,003,678	16.8	215,191	3.1	2,218,869	11.8
Churn drilling	253,552	2.1	26,847	.3	280,399	1.5
Rotary drilling	2,328,592	19.6	3,568.073	52.5	5,896,665	31.6
Percussion drilling	5,961,673	50.2	2,648,851	38.9	8,610,524	46.1
Trenching	40,565	.3	23,835	.3	64,400	.3
Other	290,267	2.4	133,715	1.9	423,982	2.2
Total	11,862,778	100.0	6,792,737	100.0	18,655,515	100.0
1966:						
Shaft and winze sinking	24,449	0.2	2,675	0.1	27,124	0.2
Raising	162,969	1.5	9,313	.3	172,282	1.3
Drifting and crosscutting	813,104	7.4	91,815	3.4	904,919	6.6
Diamond drilling	2,465,943	22.5	85,969	3.2	2,551,912	18.8
Churn drilling	260,996	2.4	1,900	.1	262,896	1.9
Rotary drilling	4,286,825	39.2	1,286,898	48.3	5,573,723	40.9
Percussion drilling	2,624,135	24.0	755,613	28.4	3,379,748	24.8
Trenching	52,717	.5	23,553	.9	76,270	.6
Other	256,106	2.3	406,527	15.3	662,633	4.9
Total	10,947,244	100.0	2,664,263	100.0	13,611,507	100.0

Table 19.—Exploration and development by methods and selected metals and nonmetals in 1966

(Feet)

Commodity	Shaft and winze sinking	Raising	Drifting and cross-cutting	Trenching	Diamond drilling	Churn drilling	Rotary drilling	Percussion drilling	Other	Total
Metals:										
Beryllium	10	-----	15	15	530	-------	17,897	600	5,000	24,067
Copper	2,845	15,635	104,126	3,280	955,071	57,791	223,757	36,084	1,600	1,400,189
Gold	2,172	16,356	59,727	7,163	115,822	1,766	44,872	281,756	4,401	534,035
Iron ore	908	47,654	102,787	-----	260,411	6,962	174,433	776,385	167,976	1,537,516
Lead	10,713	21,975	86,819	32,133	344,949	123,893	6,277	29,085	45,371	701,215
Mercury	765	1,757	7,259	2,780	7,605	3,671	15,055	20,304	-----	59,196
Molybdenum	-----	10,205	94,674	50	91,298	-----	5,793	-----	6,259	208,279
Silver	1,906	7,045	28,290	1,190	75,752	360	9,271	7,437	751	132,002
Tungsten	125	3,754	6,871	4,240	25,623	-----	102	-----	60	40,775
Uranium	3,400	13,905	224,055	576	220,236	1,390	3,671,432	1,279,847	2,463	5,417,304
Zinc	1,503	24,438	96,436	-----	335,089	64,058	19,525	178,407	17,441	736,897
Other [1]	102	245	2,045	1,290	33,557	1,105	98,411	14,230	4,784	155,769
Total	24,449	162,969	813,104	52,717	2,465,943	260,996	4,286,825	2,624,135	256,106	10,947,244
Nonmetals:										
Asbestos	-----	487	2,040	-----	-----	-----	7,350	1,780	-----	11,657
Barite	-----	829	2,791	5,914	3,314	1,400	14,501	11,390	314	40,453
Clays	-----	75	1,850	100	96	-----	211,934	8,200	281,197	503,452
Fluorspar	1,692	378	14,386	1,300	36,619	-----	300	-----	-----	54,675
Gypsum	-----	1,500	6,954	-----	8,119	-----	132,082	-----	1,000	149,655
Mica: Scrap	-----	-----	-----	129	2,338	500	11,000	-----	-----	13,967
Phosphate rock	-----	-----	-----	12,232	-----	-----	163,706	-----	117,000	292,938
Potassium salts	-----	-----	6,973	-----	4,996	-----	18,704	-----	-----	30,673
Sodium carbonate (natural)	100	-----	-----	-----	2,418	-----	32,459	-----	-----	34,977
Stone	-----	718	51,378	3,560	15,975	-----	686,100	254,212	7,016	1,018,959
Talc, soapstone, and pyrophyllite	883	5,326	5,248	-----	11,213	-----	-----	1,745	-----	24,415
Other [2]	-----	-----	195	318	881	-----	8,762	478,286	-----	488,442
Total	2,675	9,313	91,815	23,553	85,969	1,900	1,286,898	755,613	406,527	2,664,263
Grand total	27,124	172,282	904,919	76,270	2,551,912	262,896	5,573,723	3,379,748	662,633	13,611,507

Antimony, bauxite, cobalt, manganese ore, nickel, rare-earth metals, tin, and vanadium.

[2] Abrasives, boron minerals, diatomite, feldspar, magnesite, perlite, and wollastonite.

Table 20.—Exploration and development by methods and States in 1966

(Feet)

State	Shaft and winze sinking	Raising	Drifting and cross-cutting	Trenching	Diamond drilling	Churn drilling	Rotary drilling	Percussion drilling	Other	Total
Alabama	-----	-----	-----	-----	1,200	1,411	11,570	-----	14,046	28,227
Alaska	1,099	-----	300	-----	4,673	1,296	-----	11,476	6,000	24,844
Arizona	2,607	8,849	70,644	3,816	621,728	40,929	159,165	22,082	1,205	931,025
Arkansas	-----	829	2,791	-----	54,062	380	44,107	102,465	3,431	208,065
California	1,168	7,639	20,051	1,685	42,084	1,079	46,459	38,033	1,047	159,245
Colorado	3,548	17,398	180,363	3,628	328,924	7,216	129,789	806,357	7,069	1,484,292
Florida	-----	-----	-----	-----	-----	-----	237,519	-----	-----	237,519
Georgia	-----	-----	-----	-----	-----	1,000	146,574	80,711	140,772	369,057
Hawaii	-----	-----	-----	-----	-----	-----	-----	35,000	-----	35,000
Idaho	1,399	17,527	48,043	2,350	98,762	-----	102,326	20,159	-----	290,566
Illinois	842	278	4,256	-----	31,953	-----	593	500	16,000	54,422
Indiana	-----	-----	-----	-----	5,200	-----	130	-----	4	5,334
Iowa	-----	-----	-----	-----	1,385	-----	2,350	-----	-----	3,735
Kansas	-----	-----	1,200	-----	-----	10,539	41,396	-----	-----	53,135
Kentucky	290	800	2,080	1,000	9,137	-----	47,975	-----	-----	61,282
Massachusetts	-----	-----	-----	-----	300	-----	-----	-----	-----	300
Michigan	1,208	26,810	88,366	-----	142,522	-----	143,022	68,127	-----	470,055
Minnesota	-----	150	-----	-----	154,454	994	7,751	-----	152,480	315,829
Missouri	9,243	1,192	72,002	37,506	292,699	133,879	4,036	2,320	45,234	598,111
Montana	362	672	3,615	10,372	15,875	-----	1,000	12,200	-----	44,096
Nebraska	-----	-----	-----	-----	-----	-----	400	-----	-----	400
Nevada	1,670	1,090	26,801	6,955	73,823	3,427	90,356	501,596	1,750	707,468
New Jersey	-----	1,519	1,206	-----	1,825	-----	-----	-----	-----	4,550
New Mexico	800	15,216	171,825	7,044	145,822	1,445	1,268,296	434,384	2,422	2,047,254
New York	227	22,981	22,607	-----	107,850	-----	163,394	-----	-----	317,059
North Carolina	-----	-----	-----	-----	5,614	-----	27,000	400	-----	33,014
North Dakota	-----	-----	-----	-----	-----	-----	11,823	-----	1	11,824
Ohio	-----	-----	-----	-----	-----	-----	62,588	-----	1,336	63,924
Oklahoma	-----	-----	-----	300	-----	-----	4,758	-----	196	5,254
Oregon	39	-----	249	100	2,047	1,105	-----	3,000	486	7,026
Pennsylvania	-----	9,961	19,858	-----	14,558	-----	15,563	737,691	-----	797,631
South Carolina	-----	-----	-----	-----	-----	-----	3,500	-----	-----	3,500
South Dakota	-----	12,804	43,256	1,077	111,846	-----	75,510	1,550	100	246,143
Tennessee	44	6,782	46,727	-----	86,791	328	34,669	113,409	219,441	508,191
Texas	170	-----	-----	-----	26,500	-----	341,994	-----	-----	368,664
Utah	1,434	10,409	34,278	425	54,027	-----	187,284	54,828	241	342,926
Vermont	320	450	890	-----	1,341	-----	-----	-----	-----	3,001
Virginia	-----	3,731	9,680	-----	23,654	-----	275,082	-----	-----	312,147
Washington	331	2,456	18,427	12	25,437	-----	3,903	313,452	4,771	368,789
West Virginia	-----	-----	-----	-----	-----	-----	5,000	-----	-----	5,000
Wisconsin	-----	-----	702	-----	6,808	52,811	10,030	-----	-----	70,351
Wyoming	323	2,739	14,702	-----	59,011	5,057	1,866,811	20,008	44,601	2,013,252
Total	27,124	172,282	904,919	76,270	2,551,912	262,896	5,573,723	3,379,748	662,633	13,611,507

Table 21.—Total material (ore and waste) produced by exploration and development in the United States by commodities in 1966

(Thousand short tons)

Commodity	Shaft and winze sinking	Raising	Drifting and cross-cutting	Trenching	Stripping	Total
Metals:						
Bauxite	---	---	---	---	131	131
Beryllium	---	---	---	---	3	3
Copper	13	28	288	18	31,771	32,118
Gold:						
Lode	7	30	90	1	35	163
Placer	---	---	1	6	8	15
Iron ore	8	40	224	---	133,918	134,190
Lead	52	44	223	69	286	674
Mercury	1	2	12	3	615	633
Molybdenum	---	26	384	---	---	410
Silver	8	23	78	3	12	124
Tungsten	---	11	26	1	3	41
Uranium	8	18	471	---	12,209	12,706
Zinc	5	33	432	---	329	799
Other [1]	3	1	3	2	1,772	1,781
Total	105	256	2,232	103	181,092	183,788
Nonmetals:						
Asbestos	---	---	3	---	168	171
Barite	---	1	3	4	1,324	1,332
Clays	---	---	6	---	35,891	35,897
Feldspar	---	---	---	---	57	57
Fluorspar	4	1	28	1	30	64
Gypsum	---	4	34	---	7,737	7,775
Phosphate rock	---	---	---	19	204,005	204,024
Potassium salts	---	---	31	---	---	31
Sodium carbonate (natural)	1	---	---	---	---	1
Stone	---	---	1,664	26	25,794	27,484
Talc, soapstone, and pyrophyllite	5	8	12	---	97	122
Vermiculite	---	---	---	---	430	430
Other [2]	---	2	2	3	1,150	1,157
Total	10	16	1,783	53	276,683	278,545
Grand total	115	272	4,015	156	457,775	462,333

[1] Manganese ore, manganiferous ore, rare-earth metals, tin, and vanadium.

[2] Kyanite, lithium minerals, scrap mica, perlite, and wollastonite.

Table 22.—Total material (ore and waste) produced by exploration and development in the United States, by States, in 1966

(Thousand short tons)

State	Shaft and winze sinking	Raising	Drifting and cross-cutting	Trenching	Stripping	Total
Alabama	---	---	---	---	23,954	23,954
Alaska	5	---	1	---	---	6
Arizona	10	21	208	7	14,341	14,587
Arkansas	---	1	3	---	1,273	1,277
California	4	18	62	2	1,056	1,142
Colorado	8	42	538	3	67	658
Florida	---	---	---	---	199,307	199,307
Georgia	---	---	---	---	32,213	32,213
Hawaii	---	---	---	---	16	16
Idaho	8	45	121	11	---	185
Illinois	3	1	29	---	6,980	7,013
Indiana	---	---	---	---	2,110	2,110
Iowa	---	---	---	---	11,032	11,032
Kansas	---	---	5	---	53	58
Kentucky	---	1	4	1	3,003	3,009
Michigan	8	19	186	---	15,353	15,566
Minnesota	---	---	---	---	104,634	104,634
Missouri	50	2	1,703	74	474	2,303
Montana	1	2	5	10	8	26
Nevada	3	1	120	18	17,549	17,691
New Jersey	---	1	2	---	---	3
New Mexico	4	19	408	18	461	910
New York	1	22	57	---	3	83
North Dakota	---	---	---	---	2,532	2,532
Ohio	---	---	---	---	192	192
Oklahoma	---	---	---	---	393	393
Oregon	---	---	---	---	1	1
Pennsylvania	---	7	61	---	---	68
South Carolina	---	---	---	---	4,181	4,181
South Dakota	---	23	64	12	31	130
Tennessee	---	6	190	---	3,409	3,605
Texas	1	---	---	---	4,552	4,553
Utah	5	27	70	---	563	665
Vermont	1	1	4	---	---	6
Virginia	---	6	42	---	---	48
Washington	1	4	93	---	310	408
Wisconsin	---	---	4	---	223	227
Wyoming	2	3	35	---	7,501	7,541
Total	115	272	4,015	156	457,775	462,333

Statistical Summary

By Kathleen J. D'Amico[1]

This summary appears in Minerals Yearbook volumes I—II, and III, which cover mineral production in the United States, its island possessions, the Canal Zone, and the Commonwealth of Puerto Rico, as well as the principal minerals imported into and exported from the United States. The sections of this chapter and the area chapters in volume III contain further details on production. A summary table comparing world and U.S. mineral production also is included.

Mineral production may be measured at any of several stages of extraction and processing. The stage of measurement used in the chapter is normally what is termed "mine output." It usually refers to minerals in the form in which they are first extracted from the ground, but customarily includes for some minerals the product of auxiliary processing operations at or near mines.

Because of inadequacies in the statistics available, some series deviate from the foregoing definition. The quantities of gold, silver, copper, lead, zinc, and tin are recorded on a mine basis (as the recoverable content of ore sold or treated). The values assigned to these quantities, however, are based on the average selling price of refined metal, not the mine value. Mercury is measured as recovered metal and valued at the average New York price for metal.

The weight or volume units shown are those customary in the particular industries producing the respective commodities. No adjustment has been made in dollar values for changes in purchasing power of the dollar.

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[1] Statistical officer, Division of Minerals Yearbook.

Table 1.—Value of mineral production[1] in the United States by mineral groups
(Millions)

Year	Mineral fuels	Nonmetals (except fuels)	Metals	Total
1960	12,142	3,868	2,022	18,032
1961	12,357	3,946	1,927	18,230
1962	12,784	4,117	1,937	18,838
1963	[r] 13,317	[r] 4,316	2,002	[r] 19,635
1964	13,623	4,623	2,261	20,507
1965 [r]	14,047	4,933	2,471	21,451
1966	15,108	5,177	2,621	22,906

[r] Revised.
[1] Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

Table 2.—Mineral production [1] in the United States

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
Mineral fuels:								
Asphalt and related bitumens (native):								
Bituminous limestone and sandstone and gilsonite short tons	1,632,645	$8,383	1,935,344	$10,038	1,911,664	$9,461	2,041,271	$8,438
Carbon dioxide, natural (estimate) thousand cubic feet	1,295,545	178	1,232,816	166	1,173,676	152	1,140,907	153
Coal:								
Bituminous and lignite [2] thousand short tons	458,928	2,013,309	486,998	2,165,582	512,088	2,276,022	533,881	2,421,293
Pennsylvania anthracite do	18,267	153,503	17,184	148,648	14,866	122,021	12,941	100,663
Helium:								
Crude thousand cubic feet	1,420,300	15,147	3,197,016	35,322	3,566,734	39,848	3,654,700	41,556
Grade A do	809,100	28,318	830,481	25,923	819,100	28,880	951,400	32,541
Natural gas million cubic feet	14,746,663	2,328,030	[r] 15,462,138	2,387,689	16,039,753	2,494,542	[3] 17,232,134	[3] 2,721,875
Natural gas liquids:								
Natural gasoline and cycle products thousand gallons	6,534,967	439,173	7,000,181	463,600	7,288,070	494,354	7,548,428	520,635
LP gases do	10,302,250	359,770	10,743,591	362,792	11,257,267	417,249	12,134,294	527,223
Peat short tons	546,621	5,423	639,690	6,198	603,746	6,080	605,858	6,501
Petroleum (crude) thousand 42-gallon barrels	2,752,723	7,965,743	2,786,822	8,017,078	[3] 2,848,462	[3] 8,158,150	[3] 3,028,084	[3] 8,727,387
Total mineral fuels	XX	[r] 13,317,000	XX	13,623,000	XX	[r] 14,047,000	XX	15,108,000
Nonmetals (except fuels):								
Abrasive stone [4] short tons	2,693	255	3,186	292	3,603	432	3,806	515
Asbestos do	66,396	5,108	101,092	8,143	118,275	10,162	125,928	11,056
Barite thousand short tons	824	9,402	830	9,796	852	10,192	947	11,259
Boron minerals do	700	54,981	776	60,871	807	64,180	866	68,209
Bromine [5] thousand pounds	203,333	48,558	283,530	66,064	328,115	77,259	326,498	78,883
Calcite (optical grade) pounds	-----	-----	4	2	(6)	(6)	(6)	(6)
Cement:								
Portland thousand 376-pound barrels	342,036	1,095,884	358,378	1,145,108	366,802	1,154,448	373,091	1,162,984
Masonry thousand 280-pound barrels	20,997	59,599	22,397	63,305	23,260	65,979	22,367	63,407
Natural and slag thousand 376-pound barrels	352	1,407	283	1,057	279	1,027	233	872
Clays thousand short tons	50,135	180,810	52,947	192,631	[r] 55,126	[r] 204,932	56,675	221,457
Emery short tons	6,732	119	9,214	172	10,720	204	11,102	210
Feldspar long tons	548,954	5,524	587,194	5,389	624,598	6,263	685,592	7,192
Fluorspar short tons	199,948	9,001	217,137	9,723	240,932	10,889	253,068	10,841
Garnet (abrasive) do	14,626	1,412	16,123	1,622	19,330	1,717	21,952	2,092
Gem stones (estimate)	NA	1,421	NA	1,474	NA	2,218	NA	2,437
Gypsum thousand short tons	10,388	38,138	10,684	38,874	[r] 10,033	[r] 37,375	9,647	35,681
Lime do	14,521	199,389	16,089	223,149	16,794	232,939	18,057	239,588
Magnesium compounds from sea water and brine (except for metals) short tons, MgO equivalent	520,699	39,323	599,698	42,177	[r] 637,857	[r] 47,197	650,300	46,610

Mica:								
Scrap .... short tons	109,323	2,776	114,729	3,353	120,255	3,468	113,133	3,733
Sheet .... pounds	102,961	13	242,662	58	716,086	185	4,500	1
Perlite .... short tons	325,132	2,727	349,867	3,073	392,384	3,352	404,160	3,907
Phosphate rock .... thousand short tons	22,238	139,861	25,715	161,067	[r] 29,482	[r] 193,323	39,050	261,121
Potassium salts .... thousand short tons, K_2O equivalent	2,864	110,164	2,897	114,095	3,140	129,767	3,320	122,210
Pumice .... thousand short tons	2,618	6,578	2,776	6,443	[r] 3,371	[r] 6,550	3,218	6,765
Pyrites .... thousand long tons	825	5,698	847	5,471	875	5,333	873	5,088
Salt .... thousand short tons	30,641	184,589	31,623	200,706	34,687	215,699	36,463	229,985
Sand and gravel .... do	821,850	847,272	868,208	893,375	908,049	957,416	934,481	984,982
Sodium carbonate (natural) .... short tons	1,119,081	27,616	1,274,745	30,451	1,494,105	34,717	1,737,511	40,674
Sodium sulfate (natural) .... do	435,257	8,392	575,033	10,989	619,752	11,024	640,329	11,271
Stone [7] .... thousand short tons	688,366	1,068,108	725,583	1,134,564	[r] 780,242	[r] 1,203,831	813,374	1,260,715
Sulfur:								
Frasch process mines .... thousand long tons	4,995	99,014	6,035	120,776	7,251	[r] 164,654	7,721	201,292
Other mines .... long tons	1,371	15	794	8	2,852	11	557	5
Talc, soapstone, and pyrophyllite .... short tons	804,358	5,505	889,949	6,218	862,875	6,343	895,045	6,479
Tripoli .... do	66,635	266	64,613	268	71,138	381	66,163	328
Vermiculite .... thousand short tons	226	3,572	226	3,613	249	4,460	262	4,954
Value of items that cannot be disclosed: Aplite, brucite, (1965–66), calcium-magnesium chloride, diatomite, graphite, iodine, kyanite, lithium minerals, magnesite, greensand marl, olivine, staurolite, wollastonite, and values indicated by footnote 6	XX	53,616	XX	58,771	XX	65,028	XX	69,911
Total nonmetals	XX	[r] 4,316,000	XX	4,623,000	XX	[r] 4,933,000	XX	5,177,000
Metals:								
Antimony ore and concentrate short tons, antimony content	645	(8)	632	(8)	845	(8)	927	(8)
Bauxite .... thousand long tons, dried equivalent	1,525	17,234	1,601	17,875	1,654	18,632	1,796	20,095
Copper (recoverable content of ores, etc.) .... short tons	1,213,166	747,310	1,246,780	812,901	1,351,734	957,028	1,429,152	1,033,850
Gold (recoverable content of ores, etc.) .... troy ounces	1,454,010	50,889	1,456,308	50,971	1,705,190	59,682	1,803,420	63,119
Iron ore, usable (excluding byproduct iron sinter) thousand long tons, gross weight	73,564	678,181	84,300	802,331	[r] 84,079	[r] 801,388	90,040	854,134
Lead (recoverable content of ores, etc.) .... short tons	253,369	54,727	286,010	74,935	301,147	93,959	327,368	98,964
Manganese ore (35 percent or more Mn) short tons, gross weight	10,622	(8)	26,058	(8)	29,258	(8)	14,406	(8)
Manganiferous ore (5 to 35 percent Mn) .... do	543,125	(8)	238,776	(8)	332,763	(8)	324,926	(8)
Mercury .... 76-pound flasks	19,117	3,623	14,142	4,452	19,582	11,176	22,008	9,722
Molybdenum (content of concentrate) .... thousand pounds	65,839	91,096	65,097	97,121	77,310	120,801	91,670	144,327
Nickel (content of ore and concentrate) .... short tons	13,394	(8)	15,420	(8)	16,188	(8)	15,036	(8)
Silver (recoverable content of ores, etc.) thousand troy ounces	35,243	45,076	36,334	46,980	39,806	51,469	43,669	56,463
Tin (content of concentrate) .... long tons	(8)	(8)	65	185	47	126	97	265
Titanium concentrate:								
Ilmenite .... short tons, gross weight	890,071	16,529	1,003,997	19,178	948,832	18,058	868,436	17,608
Rutile .... do	11,311	1,262	10,547	1,016	(8)	(8)	(8)	(8)
Tungsten ore and concentrate short tons, 60 percent WO_3 basis	5,657	7,202	9,244	11,251	7,949	13,028	8,912	17,620
Uranium ore .... short tons	[r] 5,613,570	[r] 115,220	5,359,653	111,707	[r] 4,385,995	[r] 84,154	4,352,651	77,524
Vanadium (recoverable in ore and concentrate) short tons	3,862	13,788	4,362	13,061	5,226	18,284	5,166	22,210

See footnotes at end of table

Table 2.—Mineral production [1] in the United States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Metals—Continued								
Zinc (recoverable content of ores, etc.)______short tons__	529,254	$122,533	574,858	$156,308	611,153	$178,284	572,558	$166,044
Value of items that cannot be disclosed: Beryllium concentrate, cobalt, magnesium chloride for magnesium metal, manganiferous residuum, platinum-group metals (crude), rare-earth metal concentrates, zirconium concentrate, and values indicated by footnote 8___________	XX	36,827	XX	40,183	XX	[r] 44,804	XX	39,117
Total metals__________________________________	XX	2,002,000	XX	2,261,000	XX	[r] 2,471,000	XX	2,621,000
Grand total mineral production_____________________	XX	[r] 19,636,000	XX	20,507,000	XX	[r] 21,451,000	XX	22,906,000

[r] Revised. NA Not available. XX Not applicable.

[1] Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

[2] Includes small quantity of anthracite mined in States other than Pennsylvania.

[3] Final figure; superseded figure given in commodity section.

[4] Grindstones, pulpstones, millstones (weight not recorded), grinding pebbles, sharpening stones, and tube-mill liners.

[5] Bromine content 1963, gross weight 1964–66.

[6] Figure withheld to avoid disclosing individual company confidential data; value included with "Nonmetal items that cannot be disclosed."

[7] Excludes abrasive stone, bituminous limestone, bituminous sandstone, and ground soapstone, all included elsewhere in table.

[8] Figure withheld to avoid disclosing individual company confidential data; value included with "Metal items that cannot be disclosed."

Table 3.—Minerals produced in the United States and principal producing States in 1966

Mineral	Principal producing States in order of quantity	Other producing States
Antimony	Idaho, Nev., Mont	Alaska, Calif.
Aplite	Va	
Asbestos	Calif., Vt., Ariz., N.C	
Asphalt	Tex., Utah, Ala., Ky	Mo.
Barite	Mo., Ark., Nev., Ga	Alaska, Calif., Mont., S.C., Tenn., Tex.
Bauxite	Ark., Ala., Ga	
Beryllium	S. Dak	Colo.
Boron	Calif	
Bromine	Mich., Tex., Ark., Calif	
Brucite	Nev	
Calcite (optical grade)	Calif	
Calcium-magnesium chloride	Mich., Calif., W. Va	
Carbon dioxide	N. Mex., Colo., Utah, Calif	Wash.
Cement	Calif., Pa., Tex., Mich	Ala., Ariz., Ark., Colo., Fla., Ga., Hawaii, Idaho, Ill., Ind., Iowa, Kans., Ky., La., Maine, Md., Minn., Miss., Mo., Mont., Nebr., Nev., N.Mex., N.Y., N.C., Ohio, Okla., Oreg., S.C., S.Dak., Tenn., Utah, Va., Wash., W.Va., Wis., Wyo.
Clays	Ga., Ohio, Tex., N.C	All other States except Alaska, R.I.
Coal	W.Va., Pa., Ky., Ill	Ala., Alaska, Ark., Colo., Ind., Iowa, Kans., Md., Mo., Mont., N.Mex., N.Dak., Ohio, Okla., S.Dak., Tenn., Utah, Va., Wash., Wyo.
Cobalt	Pa., Idaho	
Copper	Ariz., Utah, Mont., N.Mex	Alaska, Calif., Colo., Idaho, Mich., Mo., Nev., Okla., Oreg., Pa., Tenn., Wash.
Diatomite	Calif., Nev., Wash., Ariz	Oreg.
Emery	N.Y	
Feldspar	N.C., Calif., S.Dak., Conn	Ariz., Colo., Ga., Maine, N.H., S.C., Va., Wyo.
Fluorspar	Ill., Ky., Mont., Nev	Colo., Utah.
Garnet, abrasive	N.Y., Idaho	
Gold	S.Dak., Utah, Nev., Ariz	Alaska, Calif., Colo., Idaho, Mont., N.Mex., Oreg., Pa., Tenn., Wash.
Graphite	Tex	
Gypsum	Mich., Iowa, Calif., Tex	Ariz., Ark., Colo., Ind., Kans., La., Mont., Nev., N.Mex., N.Y., Ohio, Okla., S.Dak., Utah, Va., Wash., Wyo.
Helium	Kans., Tex., Okla., N. Mex	Ariz.
Iodine	Mich., Calif	
Iron ore	Minn., Mich., Calif., N.Y	Ala., Ariz., Colo., Ga., Idaho, Miss., Mo., Mont., Nev., N.J., N. Mex., Pa., Tex., Utah, Va., Wyo.
Kyanite	Va., S.C., Ga	
Lead	Mo., Idaho, Utah, Colo	Alaska, Ariz., Calif., Ill., Kans., Ky., Mont., Nev., N. Mex., N.Y., Okla., Tenn., Va., Wash., Wis.
Lime	Ohio, Mich., Pa., Mo	Ala., Ariz., Ark., Calif., Colo., Conn., Fla., Hawaii, Idaho, Ill., Ind., Iowa, La., Md., Mass., Minn., Miss., Mont., Nebr., Nev., N.J. N. Mex., N.Y., N. Dak., Okla., Oreg., S. Dak., Tenn., Tex., Utah, Vt., Va., Wash., W. Va., Wis., Wyo.
Lithium	N.C., Nev., Calif., S. Dak	
Magnesite	Nev., Wash	
Magnesium chloride	Tex., Utah	
Magnesium compounds	Mich., Calif., Tex., N.J	Fla., Miss.
Manganese ore	Mont., N. Mex	
Manganiferous ore	Minn., N. Mex., Mont	
Manganiferous residuum	N.J	
Marl	N.J., Md	
Mercury	Calif., Nev., Idaho, Oreg	Alaska, Ariz., Ark., Tex.
Mica:		
Scrap	N.C., Ga., Ala., S.C	Ariz., Calif., Conn., N. Mex., Pa., S. Dak.
Sheet	N.C	

Table 3.—Minerals produced in the United States and principal producing States in 1966—Continued

Mineral	Principal producing States in order of quantity	Other producing States
Molybdenum	Colo., Utah, Ariz., N. Mex	Calif., Nev., N. Dak., S. Dak.
Natural gas	Tex., La., Okla., N. Mex	Ala., Alaska, Ariz., Ark., Calif., Colo., Fla., Ill., Ind., Kans., Ky., Md., Mich., Miss., Mont., Nebr., N.Y., N. Dak., Ohio, Pa., Utah, Va., W. Va., Wyo.
Natural gas liquids	Tex., La., Okla., N. Mex	Ark., Calif., Colo., Fla., Ill., Kans. Ky., Mich., Miss., Mont., Nebr., N. Dak., Pa., Utah, W. Va., Wyo.
Nickel	Oreg	
Olivine	Wash., N.C	
Peat	Mich., Pa., Ill., Ind	Alaska, Calif., Colo., Conn., Fla., Ga., Idaho, Iowa, Maine, Md., Mass., Minn., Mont., Nev., N.H., N.J., N.Y., N. Dak., Ohio, Oreg., S.C., Vt., Wash., Wis.
Perlite	N. Mex., Ariz., Nev., Calif	Colo., Idaho, Oreg., Tex., Utah.
Petroleum	Tex., La., Calif., Okla	Ala., Alaska, Ariz., Ark., Colo., Fla., Ill., Ind., Kans., Ky., Mich., Miss., Mo., Mont., Nebr., Nev., N. Mex., N.Y., N. Dak., Ohio, Pa., S. Dak., Tenn., Utah, Va., W. Va., Wyo.
Phosphate rock	Fla., Idaho, Tenn., Mont	Ark., N.C., Utah, Wyo.
Platinum-group metals	Alaska, Calif	
Potassium salts	N. Mex., Calif., Utah, Mich	Md.
Pumice	Ariz., Oreg., Calif., Hawaii	Colo., Idaho, Kans., Mont., Nebr., Nev., N. Mex., Okla., Tex., Utah, Wash.
Pyrites	Tenn., Pa., Ala., Colo	S.C., Utah.
Rare-earth metals	Calif., Ga., Fla., Colo	
Salt	La., Tex., Ohio, N.Y	Ala., Calif., Colo., Hawaii, Kans., Mich., Nev., N. Mex., N. Dak., Okla., Utah, Va., W. Va.
Sand and gravel	Calif., Mich., Ohio, N.Y	All other States.
Silver	Idaho, Utah, Ariz., Mont	Alaska, Calif., Colo., Ky., Mich., Nev., N. Mex., N.Y., Okla., Oreg., Pa., S. Dak., Tenn., Wash.
Sodium carbonate	Wyo., Calif	
Sodium sulfate	Calif., Tex., Wyo	
Staurolite	Fla	
Stone	Pa., Ill., Ohio, Tex	All other States.
Sulfur (Frasch)	La., Tex	
Sulfur, ore	Calif	
Talc, soapstone, and pryophyllite	N.Y., Calif., N.C., Vt	Ala., Ark., Ga., Md., Mont., Nev., Pa., Tex., Va., Wash.
Tin	Colo., Alaska, Calif., S. Dak	N. Mex.
Titanium	N.Y., Fla., N.J., Ga	Idaho, Va.
Tripoli	Ill., Okla., Ark., Pa	
Tungsten	Calif., Colo	Ariz., Idaho., Mont., Nev.
Uranium	N. Mex., Wyo., Colo., Utah	Ariz., Calif., Mont., Nev., N. Dak., S. Dak., Tex., Wash.
Vanadium	Colo., Idaho, Utah, Wyo	Ariz., N. Mex., S. Dak.
Vermiculite	Mont., S.C	
Wollastonite	N.Y., Calif	
Zinc	Tenn., N.Y., Idaho, Colo	Ariz., Calif., Ill., Kans., Ky., Mo., Mont., Nev., N.J., N. Mex., Okla., Pa., Utah, Va., Wash., Wis.
Zirconium	Fla., Ga	

Table 4.—Value of mineral production in the United States, and principal minerals produced in 1966

(Thousands)

State	Value	Rank	Percent of U.S. total	Principal minerals in order of value
Alabama	$249,778	21	1.09	Coal, cement, stone, petroleum.
Alaska	82,683	35	.36	Petroleum, sand and gravel, coal, stone.
Arizona	620,565	8	2.71	Copper, sand and gravel, molybdenum, cement.
Arkansas	190,127	26	.83	Petroleum, stone, sand and gravel, bauxite.
California	1,699,359	3	7.42	Petroleum, natural gas, cement, sand and gravel.
Colorado	352,005	17	1.54	Petroleum, molybdenum, coal, sand and gravel.
Connecticut	21,346	45	.10	Stone, sand and gravel, feldspar, lime.
Delaware	1,980	50	.01	Sand and gravel, stone, clays, gemstones.
Florida	295,447	19	1.29	Phosphate rock, stone, cement, clays.
Georgia	148,597	28	.65	Clays, stone, cement, sand and gravel.
Hawaii	21,253	46	.10	Stone, cement, sand and gravel, pumice.
Idaho	114,914	30	.50	Silver, phosphate rock, lead, zinc.
Illinois	618,313	9	2.70	Coal, petroleum, stone, sand and gravel.
Indiana	230,010	23	1.00	Coal, cement, stone, petroleum.
Iowa	119,313	29	.52	Cement, stone, sand and gravel, gypsum.
Kansas	568,392	11	2.48	Petroleum, natural gas, helium, natural gas liquids.
Kentucky	498,364	14	2.18	Coal, petroleum, stone, natural gas.
Louisiana	3,430,140	2	14.98	Petroleum, natural gas, natural gas liquids, sulfur.
Maine	16,734	47	.07	Sand and gravel, cement, stone, peat.
Maryland	74,161	39	.32	Stone, sand and gravel, cement, coal.
Massachusetts	38,473	43	.17	Sand and gravel, stone, lime, clays.
Michigan	602,127	10	2.63	Iron ore, cement, copper, sand and gravel.
Minnesota	550,277	12	2.40	Iron ore, sand and gravel, stone, cement.
Mississippi	211,360	25	.92	Petroleum, natural gas, sand and gravel, cement.
Missouri	227,950	24	1.00	Stone, cement, lead, iron ore.
Montana	245,268	22	1.07	Copper, petroleum, sand and gravel, phosphate rock.
Nebraska	78,521	36	.34	Petroleum, cement, sand and gravel, stone.
Nevada	112,632	31	.49	Copper, gold, sand and gravel, diatomite.
New Hampshire	7,000	48	.03	Sand and gravel, stone, clays, feldspar.
New Jersey	75,595	37	.33	Sand and gravel, stone, zinc, magnesium compounds.
New Mexico	820,327	7	3.58	Petroleum, natural gas, potassium salts, copper.
New York	301,264	18	1.32	Cement, stone, sand and gravel, salt.
North Carolina	71,878	39	.31	Stone, sand and gravel, cement, phosphate rock.
North Dakota	101,807	33	.44	Petroleum, sand and gravel, natural gas, coal.
Ohio	488,040	15	2.13	Coal, stone, sand and gravel, cement.
Oklahoma	997,391	4	4.35	Petroleum, natural gas, natural gas liquids, cement.
Oregon	107,484	32	.47	Stone, sand and gravel, cement, nickel.
Pennsylvania	903,408	5	3.94	Coal, cement, stone, sand and gravel.
Rhode Island	3,947	49	.02	Sand and gravel, stone.
South Carolina	45,593	42	.20	Cement, stone, clays, sand and gravel.
South Dakota	52,707	41	.23	Gold, sand and gravel, stone, cement.
Tennessee	182,584	27	.80	Stone, zinc, cement, phosphate rock.
Texas	5,019,750	1	21.91	Petroleum, natural gas, natural gas liquids, cement.
Utah	444,262	16	1.94	Copper, petroleum, coal, molybdenum.
Vermont	25,910	44	.11	Stone, asbestos, sand and gravel, talc.
Virginia	274,297	20	1.20	Coal, stone, cement, sand and gravel.
Washington	89,092	34	.39	Sand and gravel, cement, stone, zinc.
West Virginia	891,800	6	3.89	Coal, natural gas, natural gas liquids, stone.
Wisconsin	76,010	37	.33	Sand and gravel, stone, cement, zinc.
Wyoming	505,806	13	2.21	Petroleum, natural gas, sodium salts, iron ore.
Total	22,906,000	--	100.00	Petroleum, natural gas, coal, cement.

Table 5.—Mineral production [1] in the United States, by States

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
ALABAMA								
Cement: [2]								
Portland thousand 376-pound barrels	12,218	$38,417	12,870	$40,108	13,765	$42,604	16,394	$49,537
Masonry thousand 280-pound barrels	2,386	7,242	2,574	7,794	2,598	7,853	2,570	7,613
Clays thousand short tons	[3] 1,607	[3] 3,003	[3] 1,991	[3] 4,060	[3] 2,220	[3] 4,888	2,448	5,142
Coal (bituminous) do	12,359	91,243	14,435	102,267	14,832	106,249	14,219	100,112
Gem stones	NA	2	----------	----------	----------	----------	----------	----------
Iron ore (usable) thousand long tons, gross weight	2,126	11,806	2,106	11,812	1,495	8,241	1,508	8,702
Lime thousand short tons	596	6,974	599	7,118	653	7,905	699	8,442
Natural gas million cubic feet	177	21	165	18	203	26	252	32
Petroleum (crude) thousand 42-gallon barrels	9,175	23,763	8,498	22,095	8,064	21,047	8,030	20,878
Sand and gravel thousand short tons	5,363	5,778	5,840	6,191	6,422	7,195	7,082	7,953
Stone [4] do	13,684	22,206	15,852	24,976	17,987	30,810	20,744	36,839
Value of items that cannot be disclosed: Native asphalt, bauxite, slag cement, clays (kaolin 1963–65, bentonite 1964–65), scrap mica, salt, stone (dimension limestone, dimension marble 1964–66, shell 1963–65, crushed sandstone 1965–66), talc, and tripoli (1965)	XX	5,415	XX	9,251	XX	9,446	XX	4,528
Total	XX	215,870	XX	235,690	XX	246,264	XX	249,778
ALASKA								
Antimony ore and concentrate short tons, antimony content	----------	----------	14	$18	1	$1	8	W
Coal (bituminous thousand short tons	853	$5,910	745	5,008	893	6,095	927	$6,953
Copper (recoverable content of ores, etc.) short tons	----------	----------	11	7	32	23	W	W
Gold (recoverable content of ores, etc.) troy ounces	99,573	3,485	58,416	2,045	42,249	1,479	27,325	956
Lead (recoverable content of ores, etc.) short tons	5	1	----------	----------	9	3	14	4
Mercury 76-pound flasks	400	76	303	95	W	W	W	W
Natural gas million cubic feet	4,498	1,111	6,238	1,719	7,255	1,799	11,267	2,794
Peat short tons	----------	----------	2,350	19	1,967	16	W	W
Petroleum (crude) thousand 42-gallon barrels	10,740	32,650	11,059	33,627	11,128	34,073	14,358	44,007
Sand and gravel thousand short tons	16,926	22,005	26,089	18,488	30,266	34,467	17,457	21,793
Silver (recoverable content of ores, etc.) thousand troy ounces	14	18	7	9	8	10	7	9
Value of items that cannot be disclosed: Barite (1966), gem stones, platinum-group metals, stone, tin (1964–66), uranium ore (1963–65) and values indicated by symbol W	XX	2,584	XX	4,912	XX	5,489	XX	6,167
Total	XX	67,840	XX	65,947	XX	83,455	XX	82,683

ARIZONA

Asbestos short tons	W	W	W	W	3,469	$441	W	W
Clays[3] thousand short tons	163	$203	168	$213	129	164	89	$121
Copper (recoverable content of ores, etc.) short tons	660,977	407,162	690,988	450,524	703,377	497,991	739,569	535,004
Diatomite do	W	W	450	16	295	8	1,353	36
Gem stones	NA	120	NA	120	NA	120	NA	120
Gold (recoverable content of ores, etc.) troy ounces	140,030	4,901	153,676	5,379	150,431	5,265	142,528	4,988
Gypsum thousand short tons	W	W	147	770	103	540	75	394
Helium, grade A thousand cubic feet	W	W	46,000	1,610	58,000	2,030	63,500	2,222
Iron ore (usable) thousand long tons, gross weight	W	W	4	32	8	51	W	W
Lead (recoverable content of ores, etc.) short tons	5,815	1,256	6,147	1,611	5,913	1,845	5,211	1,575
Lime thousand short tons	181	3,048	177	2,920	204	3,543	218	3,721
Mercury 76-pound flasks	W	W	77	24	158	90	363	160
Molybdenum (content of concentrate) thousand pounds	5,553	7,584	6,296	9,532	9,399	15,880	10,161	17,812
Natural gas million cubic feet	1,334	161	2,014	241	3,106	376	3,161	436
Petroleum (crude) thousand 42-gallon barrels	68	W	64	W	97	W	132	370
Pumice thousand short tons	800	1,877	880	1,635	[r] 1,161	[r] 1,515	1,103	1,674
Sand and gravel do	15,037	14,466	18,116	20,868	14,918	16,621	18,730	20,448
Silver (recoverable content of ores, etc.) thousand troy ounces	5,373	6,873	5,811	7,513	6,095	7,881	6,339	8,196
Stone thousand short tons	3,257	5,069	3,759	6,283	2,474	4,171	2,271	4,091
Tungsten ore and concentrate short tons, 60-percent WO_3 basis	----------	----------	16	17	3	5	2	5
Uranium ore short tons	150,584	4,844	102,258	3,253	117,898	3,918	64,195	1,978
Vanadium (recoverable in ore and concentrate) do	222	W	W	575	W	381	W	453
Zinc (recoverable content of ores, etc.) do	25,419	5,846	24,690	6,716	21,757	6,353	15,985	4,636
Value of items that cannot be disclosed: Cement, clays (bentonite, fire clay 1963–64), feldspar, scrap mica, perlite pyrites, and values indicated by symbol W	XX	[r] 17,617	XX	14,501	XX	10,903	XX	12,125
Total	XX	[r] 481,027	XX	534,353	XX	[r] 580,092	XX	620,565

ARKANSAS

Barite thousand short tons	236	$2,161	233	$2,202	249	$2,379	238	$2,266
Bauxite thousand long tons, dried equivalent	1,478	16,701	1,562	17,431	1,593	17,974	1,718	19,439
Bromine and bromine in compounds thousand pounds	W	W	W	W	32,254	7,171	42,307	10,467
Clays thousand short tons	769	1,763	892	2,152	866	1,890	[3] 775	[3] 776
Coal (bituminous) do	221	1,505	212	1,503	226	1,643	236	1,640
Gem stones	NA	42	NA	38	NA	31	NA	35
Lime thousand short tons	167	2,237	189	2,814	192	2,776	207	3,004
Natural gas million cubic feet	76,101	11,796	75,753	11,806	82,831	12,922	105,174	16,407
Natural gas liquids:								
Natural gasoline and cycle products thousand gallons	26,219	1,466	30,082	1,678	27,787	1,578	32,050	1,923
LP gases do	66,377	2,497	61,616	2,460	69,752	3,139	64,664	3,233
Petroleum (crude) thousand 42-gallon barrels	27,406	72,900	26,737	71,120	25,930	68,974	23,824	63,372
Sand and gravel thousand short tons	12,099	13,589	11,794	14,836	12,806	15,836	16,056	21,038
Stone do	18,913	22,727	20,241	26,172	21,241	26,778	19,109	24,588
Value of items that cannot be disclosed: Abrasive stones, cement, clays (kaolin and fire clay 1966), gypsum, iron ore (1963–65), mercury (1966), phosphate rock, soapstone, tripoli (1965–66), and values indicated by symbol W	XX	17,900	XX	20,611	XX	16,019	XX	21,939
Total	XX	167,284	XX	174,818	XX	179,110	XX	190,127

See footnotes at end of table.

Table 5.—Mineral production[1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
CALIFORNIA								
Antimony ore and concentrate short tons, antimony content	---	---	---	---	---	---	1	(5)
Asbestos short tons	19,591	$1,547	55,041	$4,419	74,587	$6,177	81,671	$6,945
Barite thousand short tons	5	31	6	45	4	21	15	104
Boron minerals short tons	700,183	54,981	776,000	60,871	807,000	64,180	866,000	68,209
Calcite (optical grade) pounds	---	---	4	2	W	W	W	W
Cement thousand 376-pound barrels	46,278	147,656	47,204	149,983	45,352	144,852	45,387	146,302
Clays thousand short tons	3,395	8,031	3,685	8,433	3,207	7,226	2,984	6,708
Copper (recoverable content of ores, etc.) short tons	916	564	1,035	675	1,165	825	1,078	780
Feldspar long tons	75,516	W	102,264	W	95,975	W	100,915	W
Gem stones	NA	200	NA	200	NA	200	NA	200
Gold (recoverable content of ores, etc.) troy ounces	86,867	3,040	71,028	2,486	62,885	2,201	64,764	2,267
Gypsum thousand short tons	1,756	4,222	1,893	4,539	1,611	3,881	1,207	3,064
Lead (recoverable content of ores, etc.) short tons	823	178	1,546	405	1,810	565	1,976	597
Lime thousand short tons	487	8,932	577	10,294	602	11,073	552	8,764
Magnesium compounds from sea water and bitterns (partly estimated) short tons, MgO equivalent	82,397	6,135	94,739	7,143	r 95,652	r 7,955	87,816	7,413
Mercury 76-pound flasks	13,592	2,575	10,291	3,240	13,404	7,650	16,070	7,100
Mica, scrap short tons	977	14	W	W	W	W	W	W
Natural gas million cubic feet	646,486	189,420	660,444	198,551	660,384	204,059	[8] 715,113	[8] 223,175
Natural gas liquids:								
Natural gasoline and cycle products thousand gallons	715,303	54,188	720,373	54,088	655,780	49,850	634,638	48,867
LP gases do	393,503	17,329	352,614	15,893	339,082	15,467	353,164	17,304
Peat short tons	39,873	450	35,391	443	30,905	434	29,235	384
Petroleum (crude) thousand 42-gallon barrels	300,908	746,252	300,009	729,022	316,428	753,099	345,295	812,834
Pumice thousand short tons	460	2,017	443	1,937	676	1,744	580	1,763
Salt do	1,716	W	1,525	W	1,638	W	1,693	W
Sand and gravel do	112,185	128,178	112,995	129,333	118,310	136,227	120,692	139,157
Silver (recoverable content of ores, etc.) thousand troy ounces	157	200	172	222	197	254	190	246
Stone thousand short tons	37,977	58,253	45,805	63,566	42,575	59,668	43,051	61,336
Sulfur ore long tons	785	4	520	3	360	2	557	5
Talc, soapstone, and pyrophyllite short tons	120,452	1,427	132,601	1,631	141,074	1,725	138,340	1,847
Tin (content of concentrate) long tons	W	W	W	W	W	W	13	21
Wollastonite short tons	3,000	28	3,625	36	W	W	W	W
Zinc (recoverable content of ores, etc.) do	101	23	143	39	225	66	335	97
Value of items that cannot be disclosed: Bromine, calcium-magnesium chloride, carbon dioxide, coal (lignite), diatomite, iodine, iron ore, lithium minerals, molybdenum, perlite, platinum-group metals (crude), potassium salts, rare-earth metal concentrates, sodium carbonates and sulfates, tungsten concentrate, uranium ore, and values indicated by symbol W	XX	90,366	XX	113,043	XX	r 117,897	XX	183,870
Total	XX	1,526,241	XX	1,560,492	XX	r 1,597,298	XX	1,699,359

COLORADO

Beryllium concentrate____short tons, gross weight__	[6]751	W	W	W	W	W	W	W
Carbon dioxide, natural____thousand cubic feet__	224,856	$38	211,830	$36	155,668	$26	147,292	$25
Clays____thousand short tons__	686	1,334	558	1,275	631	1,446	569	1,054
Coal (bituminous)____do____	3,690	21,888	4,355	23,427	4,790	24,431	5,222	26,075
Copper (recoverable content of ores, etc.)____short tons__	4,169	2,568	4,653	3,034	3,828	2,710	4,237	3,065
Feldspar____long tons__	W	W	W	W	521	3	891	6
Gem stones____	NA	63	NA	80	NA	80	NA	80
Gold (recoverable content of ores, etc.)____troy ounces__	33,605	1,176	42,122	1,474	37,228	1,303	31,915	1,117
Gypsum____thousand short tons__	99	346	100	398	[r]100	[r]379	75	269
Iron ore (usable)____thousand long tons, gross weight__	W	W	35	231	114	787	164	1,133
Lead (recoverable content of ores, etc.)____short tons__	19,918	4,302	20,563	5,388	22,495	7,018	23,082	6,978
Lime____thousand short tons__	128	2,104	138	2,193	118	2,074	126	2,327
Mica, scrap____short tons__	440	7	----------	----------	----------	----------	----------	----------
Molybdenum (content of concentrate)____thousand pounds__	47,977	67,168	46,378	69,207	[7]50,715	[7]78,609	57,289	88,851
Natural gas____million cubic feet__	105,705	12,367	113,691	13,489	126,381	16,303	136,667	17,767
Natural gas liquids:								
Natural gasoline____thousand gallons__	56,869	3,191	52,400	2,845	54,180	3,034	59,420	3,565
LP gases____do____	91,309	4,171	88,916	3,894	91,399	3,930	73,390	3,596
Peat____short tons__	13,774	98	27,931	188	31,179	236	37,111	278
Petroleum (crude)____thousand 42-gallon barrels__	38,283	110,255	34,755	100,094	33,511	96,512	33,492	97,462
Pumice____thousand short tons__	60	87	61	114	56	134	46	104
Pyrites____thousand long tons__	W	W	W	W	30	90	W	W
Sand and gravel____thousand short tons__	20,385	20,929	20,746	22,227	20,810	22,041	22,245	23,485
Silver (recoverable content of ores, etc.) thousand troy ounces__	2,307	2,951	2,626	3,396	2,051	2,652	2,085	2,697
Stone____thousand short tons__	2,510	5,693	3,217	6,805	4,789	8,638	7,031	11,331
Tin (content of concentrate)____long tons__	W	W	29	103	32	76	44	99
Tungsten____short tons__	W	W	W	W	1,176	1,985	1,494	3,626
Uranium ore____do____	1,014,206	15,864	833,282	13,389	574,795	10,651	633,113	10,530
Vanadium (recoverable in ore and concentrate)____do____	3,047	W	3,312	9,916	4,017	14,056	3,697	15,888
Vermiculite____thousand short tons__	(5)	1	(5)	1	----------	----------	----------	----------
Zinc (recoverable content of ores, etc.)____short tons__	48,109	11,065	53,682	14,602	53,870	15,730	54,822	15,898
Value of items that cannot be disclosed: Cement, fluorspar, molybdenum (1965) perlite, rare-earth metal concentrates (1966), salt, and values indicated by symbol W____	XX	29,478	XX	18,205	XX	16,234	XX	14,699
Total____	XX	317,144	XX	316,011	XX	[r]331,168	XX	352,005

CONNECTICUT

Clays____thousand short tons__	189	$339	212	$262	237	$322	192	$296
Gem stones____	NA	8	NA	8	NA	8	NA	8
Lime____thousand short tons__	35	666	39	689	W	W	W	W
Sand and gravel____do____	10,503	9,343	10,088	9,437	9,940	9,106	9,561	8,963
Stone____do____	5,318	9,612	5,864	10,764	5,871	10,444	5,618	10,482
Value of items that cannot be disclosed: Feldspar, scrap mica, peat, and values indicated by symbol W____	XX	646	XX	690	XX	1,354	XX	1,597
Total____	XX	20,614	XX	21,850	XX	21,234	XX	21,346

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
DELAWARE								
Clays thousand short tons	13	$13	11	$11	11	$11	11	$11
Gem stones	NA	1	NA	1	NA	1	NA	1
Sand and gravel thousand short tons	1,094	1,136	1,282	1,280	1,545	1,441	1,610	1,443
Stone do	W	W	180	450	180	450	210	525
Value of items that cannot be disclosed: Other nonmetals and values indicated by symbol W	XX	191	XX	----------	XX	----------	XX	----------
Total	XX	1,341	XX	1,742	XX	1,903	XX	1,980
FLORIDA								
Clays thousand short tons	538	$7,777	627	$8,405	651	$9,752	762	$11,408
Lime do	126	1,996	117	1,814	101	1,558	135	1,966
Natural gas million cubic feet	35	7	40	5	107	14	212	30
Peat short tons	21,049	129	19,813	102	19,253	109	11,500	91
Petroleum (crude) thousand 42-gallon barrels	464	W	620	W	1,464	W	1,799	W
Phosphate rock thousand short tons	16,343	101,050	19,161	119,667	21,563	141,258	W	W
Sand and gravel do	7,542	5,823	7,420	6,427	7,298	6,377	7,403	6,417
Stone do	31,900	38,173	33,157	38,362	35,730	41,148	35,023	38,167
Value of items that cannot be disclosed: Cement, gem stones (1963), magnesium compounds, natural gas liquids, rare-earth metals concentrates, staurolite, titanium concentrate, zirconium concentrate, and values indicated by symbol W	XX	46,665	XX	48,627	XX	49,104	XX	237,368
Total	XX	201,620	XX	223,409	XX	249,320	XX	295,447
GEORGIA								
Barite thousand short tons	117	$2,013	109	$2,022	W	W	W	W
Clays do	4,208	54,024	4,365	58,899	4,607	$63,158	5,128	$73,685
Coal (bituminous) do	5	16	4	15	----------	----------	----------	----------
Gem stones	NA	1	----------	----------	----------	----------	----------	----------
Iron ore (usable) thousand long tons, gross weight	260	1,304	354	1,752	r 430	r 2,208	447	2,200
Mica:								
Scrap short tons	W	W	W	W	13,065	W	16,608	380
Sheet pounds	----------	----------	----------	----------	2,793	([5])	----------	----------
Sand and gravel thousand short tons	3,817	3,922	3,588	3,594	3,675	3,588	3,915	4,185
Stone do	19,582	46,044	22,822	46,428	23,421	48,265	24,690	48,193
Talc short tons	42,000	93	40,400	135	44,800	313	41,000	255
Value of items that cannot be disclosed: Bauxite, cement, feldspar, kyanite, peat, rare-earth metal concentrates (1966), titanium concentrate (1965–66), zirconium concentrate (1965–66), and values indicated by symbol W	XX	12,059	XX	14,292	XX	17,688	XX	19,699
Total	XX	119,476	XX	127,137	XX	r 135,220	XX	148,597

HAWAII

Cement thousand 376-pound barrels	1,483	$7,125	1,717	$8,877	1,564	$8,297	1,749	$9,046
Clays thousand short tons	W	W	3	W	W	W	W	W
Gem stones	NA	36	NA	W	NA	W	NA	W
Lime thousand short tons	12	428	9	321	9	305	10	320
Pumice do	274	469	365	603	380	624	374	716
Sand and gravel do	304	764	407	979	751	2,237	511	1,591
Stone do	3,844	6,480	5,282	8,765	5,172	9,353	5,079	9,482
Value of items that cannot be disclosed: Other nonmetals and values indicated by symbol W	XX	5	XX	60	XX	19	XX	98
Total	XX	15,307	XX	19,605	XX	20,835	XX	21,253

IDAHO

Antimony ore and concentrate short tons, antimony content	645	W	585	W	818	W	834	W
Clays [3] thousand short tons	31	$15	29	$25	47	$33	23	$22
Cobalt thousand pounds	---	---	---	---	---	---	1	6
Copper (recoverable content of ores, etc.) short tons	4,172	2,570	4,666	3,042	5,140	3,639	4,961	3,589
Gem stones	NA	W	NA	W	NA	150	NA	180
Gold (recoverable content of ores, etc.) troy ounces	5,477	192	5,677	199	5,078	178	5,056	177
Iron ore (usable) thousand long tons, gross weight	6	40	4	33	9	84	11	97
Lead (recoverable content of ores, etc.) short tons	75,759	16,364	71,312	18,684	66,606	20,781	72,334	21,867
Lime thousand short tons	60	874	W	W	W	W	W	W
Mercury 76-pound flasks	W	W	83	26	1,119	639	1,134	501
Peat short tons	W	W	900	8	W	W	W	W
Phosphate rock thousand short tons	1,904	10,589	W	W	W	W	W	W
Pumice do	161	275	59	100	46	79	55	107
Sand and gravel do	12,433	10,615	9,582	8,691	12,151	13,198	7,544	6,672
Silver (recoverable content of ores, etc.) thousand troy ounces	16,711	21,375	16,483	21,313	18,457	23,865	19,777	25,571
Stone thousand short tons	1,168	2,217	1,144	2,773	1,831	3,440	2,694	5,415
Tungsten concentrate short tons, 60-percent WO_3 basis	---	---	11	8	---	---	2	1
Vanadium (recoverable in ore and concentrate) short tons	23	W	W	W	W	W	W	W
Zinc (recoverable content of ores, etc.) do	63,267	14,551	59,298	16,129	58,034	16,946	60,997	17,689
Value of items that cannot be disclosed: Barite (1963–64), cement, clays (fire clay, bentonite, kaolin), abrasive garnet, scrap mica (1963–64), perlite, titanium concentrate, and values indicated by symbol W	XX	3,110	XX	15,231	XX	[r] 22,053	XX	33,020
Total	XX	82,787	XX	86,262	XX	105,085	XX	114,914

ILLINOIS

Cement:								
Portland thousand 376-pound barrels	9,281	$30,577	9,790	$32,191	9,358	$30,622	9,203	$28,617
Masonry thousand 280-pound barrels	472	1,440	596	2,038	615	1,907	614	1,868
Clays thousand short tons	1,949	4,368	[3] 2,007	[3] 4,358	[3] 2,169	[3] 4,601	[3] 1,894	[3] 3,996
Coal (bituminous) do	51,736	196,518	55,023	208,448	58,483	218,972	63,571	244,837
Fluorspar short tons	132,060	6,547	127,454	6,452	159,140	7,861	176,175	8,002
Lead (recoverable content of ores, etc.) do	2,901	627	2,180	571	3,005	938	2,285	691

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
ILLINOIS—Continued								
Natural gas million cubic feet	9,459	$1,220	7,824	$905	7,396	$865	7,230	$860
Natural gas liquids:								
Natural gasoline and cycle products thousand gallons	14,939	1,077	14,109	1,030	W	W	W	W
LP gases do	337,278	14,714	312,173	13,758	W	W	W	W
Peat short tons	W	W	W	W	36,774	453	44,374	565
Petroleum (crude) thousand 42-gallon barrels	74,796	222,892	70,168	205,592	63,708	186,664	[3] 61,982	[3] 185,947
Sand and gravel thousand short tons	31,746	36,431	34,880	39,966	36,228	40,480	38,237	43,201
Stone do	40,293	52,217	42,987	56,553	47,066	61,294	46,157	60,961
Zinc (recoverable content of ores, etc.) short tons	20,337	4,678	13,800	3,754	18,314	5,348	15,192	4,406
Value of items that cannot be disclosed: Clay (fuller's earth 1964–66), gem stones, lime, tripoli, and values indicated by symbol W	XX	13,656	XX	15,520	XX	33,020	XX	34,362
Total	XX	586,962	XX	591,136	XX	593,025	XX	618,313
INDIANA								
Abrasive stones short tons	5	$16	5	$16	5	$15	5	$15
Cement [2] thousand 376-pound barrels	13,165	43,216	15,038	48,695	14,925	48,797	15,305	49,826
Clays thousand short tons	1,546	2,347	1,545	2,264	1,459	2,160	1,491	2,196
Coal (bituminous) do	15,100	57,120	15,075	57,246	15,565	59,927	17,326	67,857
Natural gas million cubic feet	286	67	199	47	239	56	215	51
Peat short tons	47,695	412	66,568	543	53,873	511	38,111	456
Petroleum (crude) thousand 42-gallon barrels	11,902	35,230	11,283	32,157	[3] 11,429	[3] 32,458	10,617	31,850
Sand and gravel thousand short tons	22,840	20,683	24,416	21,811	24,867	22,220	24,992	23,542
Stone do	19,667	35,616	22,308	39,978	24,574	42,124	24,323	42,474
Value of items that cannot be disclosed: Cement (masonry), gem stones (1963), gypsum, and lime (1966)	XX	9,259	XX	9,026	XX	10,299	XX	11,743
Total	XX	203,966	XX	211,783	XX	218,567	XX	230,010
IOWA								
Cement:								
Portland thousand 376-pound barrels	12,495	$42,891	13,607	$46,398	13,643	$46,273	14,058	$46,736
Masonry thousand 280-pound barrels	551	1,754	585	1,847	608	1,867	633	1,890
Clays thousand short tons	1,064	1,405	1,008	1,254	1,085	1,347	1,130	1,438
Coal (bituminous) do	1,213	4,244	973	3,447	1,043	3,694	1,025	3,783
Gypsum do	1,282	5,667	1,287	5,821	1,254	5,554	1,285	5,577
Sand and gravel do	14,168	12,845	13,890	13,546	18,205	17,152	19,644	18,213
Stone do	20,904	27,788	23,935	33,038	25,891	35,468	27,729	40,081
Value of items that cannot be disclosed: Gem stones, lime, peat, and petroleum (1963–64)	XX	1,076	XX	1,279	XX	1,428	XX	1,595
Total	XX	97,670	XX	106,630	XX	112,783	XX	119,313

KANSAS								
Cement: [3]								
Portland ... thousand 376-pound barrels	8,201	$25,372	8,483	$25,959	8,801	$26,972	8,979	$27,246
Masonry ... thousand 280-pound barrels	387	1,183	384	1,173	404	1,178	395	1,151
Clays ... thousand short tons	893	1,104	785	935	789	953	847	1,006
Coal (bituminous) ... do	1,169	5,311	1,263	5,749	1,310	6,072	1,122	5,355
Helium: Crude ... thousand cubic feet	740,900	8,150	2,170,512	24,941	2,551,026	29,518	2,624,200	30,951
Grade A ... do	46,400	1,624	44,826	1,657	19,763	904	75,500	1,885
Lead (recoverable content of ores, etc.) ... short tons	1,027	222	1,185	310	1,644	518	1,109	335
Natural gas ... million cubic feet	732,946	97,482	764,073	96,031	793,379	105,519	847,495	114,412
Natural gas liquids:								
Natural gasoline ... thousand gallons	165,370	9,811	162,725	8,713	153,485	7,791	175,053	9,399
LP gases ... do	395,877	15,481	512,747	18,121	587,416	22,322	664,164	25,902
Petroleum (crude) ... thousand 42-gallon barrels	109,107	317,501	106,252	310,256	104,733	305,820	103,738	306,027
Salt [9] ... thousand short tons	924	11,993	930	11,799	1,053	12,376	969	13,388
Sand and gravel ... do	12,062	8,676	12,968	9,108	12,544	8,473	11,627	8,374
Stone ... do	13,558	18,483	14,188	18,912	15,270	20,538	14,027	18,789
Zinc (recoverable content of ores, etc.) ... short tons	3,508	807	4,665	1,269	6,508	1,900	4,769	1,383
Value of items that cannot be disclosed: Natural cement, gypsum, pumice, and salt (brine)	XX	3,260	XX	3,277	XX	2,642	XX	2,789
Total	XX	[r] 526,460	XX	538,210	XX	553,491	XX	568,392
KENTUCKY								
Barite ... thousand short tons	6	$85	6	$96	----------	----------	----------	----------
Clays [3] ... do	984	2,397	920	1,801	1,059	$2,580	1,152	$2,277
Coal (bituminous) ... do	77,350	295,743	82,747	309,896	85,766	324,523	93,156	363,440
Fluorspar ... short tons	35,072	1,537	38,214	1,698	31,992	1,485	28,725	1,361
Lead (recoverable content of ores, etc.) ... do	831	179	858	225	756	236	484	146
Natural gas ... million cubic feet	74,634	17,838	76,940	18,257	78,976	18,638	76,536	18,139
Petroleum (crude) ... thousand 42-gallon barrels	18,344	53,564	19,772	56,746	19,386	55,638	18,066	51,488
Sand and gravel ... thousand short tons	6,480	6,071	6,560	6,297	6,742	6,332	8,064	7,524
Silver (recoverable content of ores, etc.) thousand troy ounces	2	2	2	2	2	2	1	1
Stone ... thousand short tons	24,689	34,571	[4] 21,868	[4] 29,594	26,029	34,533	22,667	31,179
Zinc (recoverable content of ores, etc.) ... short tons	1,461	336	2,063	561	5,654	1,651	6,586	1,910
Value of items that cannot be disclosed: Native asphalt (1966), cement, ball clay, gem stones (1963), natural gas liquids, and stone (dimension sandstone 1964)	XX	20,370	XX	19,211	XX	20,763	XX	20,899
Total	XX	432,693	XX	444,379	XX	466,381	XX	498,364
LOUISIANA								
Clays ... thousand short tons	655	$655	780	$797	909	$936	1,005	$983
Lime ... do	657	6,862	725	8,312	842	9,980	835	9,274
Natural gas ... million cubic feet	3,928,427	777,829	4,152,731	798,328	4,466,786	812,955	5,081,435	929,902
Natural gas liquids:								
Natural gasoline and cycle products ... thousand gallons	1,143,707	81,332	1,352,980	91,931	1,431,836	102,781	1,562,075	113,802
LP gases ... do	1,113,670	41,043	1,247,484	45,935	1,300,038	46,101	1,469,716	72,016

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
LOUISIANA—Continued								
Petroleum (crude) thousand 42-gallon barrels	515,057	$1,608,120	549,698	$1,709,622	594,853	$1,841,714	674,318	$2,097,129
Salt thousand short tons	6,199	30,450	6,401	36,056	8,126	41,812	8,736	44,189
Sand and gravel do	12,500	14,701	13,594	15,253	14,298	16,405	18,216	22,504
Stone [4] do	5,408	7,961	5,459	7,228	7,452	10,905	8,091	11,253
Sulfur (Frasch process) thousand long tons	2,445	48,905	2,733	54,996	3,577	[r] 81,372	4,018	104,472
Value of items that cannot be disclosed: Cement, gypsum, and stone (crushed miscellaneous)	XX	20,531	XX	21,549	XX	23,350	XX	24,616
Total	XX	2,638,389	XX	2,785,007	XX	[r] 2,988,261	XX	3,430,140
MAINE								
Clays thousand short tons	42	$55	45	$58	49	$63	45	$58
Gem stones	NA	25	NA	35	NA	35	NA	35
Peat short tons	W	W	6,350	171	1,275	56	1,600	60
Sand and gravel thousand short tons	11,195	4,673	13,552	6,463	17,294	7,831	15,036	7,027
Stone do	947	3,581	1,414	4,506	1,100	3,409	1,092	3,622
Value of items that cannot be disclosed: Cement, feldspar, and values indicated by symbol W	XX	5,770	XX	6,341	XX	6,347	XX	5,932
Total	XX	14,104	XX	17,574	XX	17,741	XX	16,734
MARYLAND								
Clays thousand short tons	580	$897	[3] 635	[3] $798	[3] 914	[3] $1,088	[3] 856	[3] $1,084
Coal (bituminous) do	1,162	4,330	1,136	4,511	1,210	4,389	1,222	4,367
Gem stones	NA	3	NA	3	NA	3	NA	3
Lime thousand short tons	W	W	W	W	37	481	29	386
Natural gas million cubic feet	1,633	439	1,373	366	408	103	696	181
Sand and gravel thousand short tons	13,310	16,063	15,041	18,071	16,200	21,188	15,108	20,383
Stone do	13,012	26,407	13,348	26,715	14,553	28,432	13,868	27,229
Value of items that cannot be disclosed: Cement, ball clay (1964–66), diatomite (1963), greensand marl, peat, potassium salts, talc and soapstone, and values indicated by symbol W	XX	22,111	XX	23,429	XX	22,311	XX	20,528
Total	XX	70,250	XX	73,893	XX	77,995	XX	74,161

MASSACHUSETTS

Clays thousand short tons	157	$213	138	$174	181	$238	202	$260
Gem stones	NA	2	NA	2	NA	2	NA	2
Lime thousand short tons	145	2,426	171	2,703	170	2,779	182	2,712
Sand and gravel do	19,905	15,592	21,341	16,794	22,141	16,172	17,321	17,846
Stone do	5,570	14,396	6,519	16,663	6,168	16,980	6,424	17,624
Value of items that cannot be disclosed: Nonmetals	XX	32	XX	31	XX	27	XX	29
Total	XX	32,661	XX	36,367	XX	36,198	XX	38,473

MICHIGAN

Cement:								
Portland thousand 376-pound barrels	25,016	$76,944	26,745	$84,316	27,565	$86,996	28,171	$87,413
Masonry thousand 280-pound barrels	1,684	4,519	1,865	4,954	2,108	5,373	2,032	5,221
Clays thousand short tons	1,958	2,149	2,385	2,592	2,402	2,580	2,450	2,620
Copper (recoverable content of ores, etc.) short tons	75,262	46,361	69,040	45,014	71,749	50,798	73,449	53,133
Gypsum thousand short tons	1,315	4,938	1,421	5,263	1,338	5,027	1,522	5,489
Iron ore (usable) thousand long tons, gross weight	10,789	107,201	13,871	143,979	13,527	145,482	14,377	157,377
Lime thousand short tons	1,371	18,431	1,430	19,246	1,095	13,057	1,701	20,016
Magnesium compounds from sea water and brine (except for metal) short tons, MgO equivalent	266,740	23,062	306,494	23,385	319,389	26,143	342,482	28,105
Manganiferous ore (5 to 35 percent Mn) short tons, gross weight	152,957	W	----------	----------	----------	----------	----------	----------
Natural gas million cubic feet	32,850	8,902	31,388	7,984	34,558	8,674	34,120	8,598
Natural gas liquids:								
Natural gasoline thousand gallons	W	W	W	W	9,054	607	15,703	1,099
LP gases do	W	W	W	W	76,299	3,815	79,719	4,385
Peat short tons	251,809	2,413	269,074	2,412	230,950	2,134	235,842	2,175
Petroleum (crude) thousand 42-gallon barrels	15,972	45,520	15,601	43,839	14,728	41,091	14,273	40,913
Salt thousand short tons	4,244	33,656	4,345	35,711	4,171	36,087	4,465	38,611
Sand and gravel do	50,458	43,433	51,921	44,405	53,168	47,176	55,123	49,521
Silver (recoverable content of ores, etc.) thousand troy ounces	339	434	349	452	458	592	483	625
Stone thousand short tons	30,316	32,065	34,650	37,002	34,713	36,438	37,864	40,380
Value of items that cannot be disclosed: Bromine, calcium-magnesium chloride, gem stones, iodine, potassium salts, and values indicated by symbol W	XX	42,001	XX	54,278	XX	53,490	XX	56,446
Total	XX	492,029	XX	554,832	XX	565,560	XX	602,127

MINNESOTA

Clays [3] thousand short tons	199	$298	213	$319	207	$311	224	$336
Iron ore (usable) thousand long tons, gross weight	45,435	408,486	49,626	449,289	50,873	459,290	55,133	499,388
Manganiferous ore (5 to 35 percent Mn) short tons, gross weight	347,336	W	188,481	W	280,705	W	275,581	W
Peat short tons	8,110	294	19,188	405	7,346	123	11,366	197
Sand and gravel thousand short tons	30,462	23,318	35,817	25,907	37,545	27,296	39,331	28,972
Stone do	3,898	11,027	3,588	12,297	4,371	11,680	4,901	11,688
Value of items that cannot be disclosed: Abrasive stones, cement, fire clay, gem stones, lime, and values indicated by symbol W	XX	10,120	XX	9,278	XX	9,060	XX	9,696
Total	XX	453,543	XX	497,495	XX	507,760	XX	550,277

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
MISSISSIPPI								
Clays ... thousand short tons	1,235	,968	1,331	$6,130	1,502	$6,997	1,727	$7,489
Natural gas ... million cubic feet	176,807	31,825	180,428	31,385	166,825	28,861	156,652	27,257
Natural gas liquids:								
Natural gasoline and cycle products ... thousand gallons	28,757	1,755	27,485	1,644	26,582	1,606	23,765	1,483
LP gases ... do	24,541	956	23,277	780	22,150	975	18,621	987
Petroleum (crude) ... thousand 42-gallon barrels	58,619	161,788	56,777	151,595	56,183	148,437	55,227	146,353
Sand and gravel ... thousand short tons	6,825	7,056	7,825	8,569	8,447	8,717	12,675	13,563
Stone ... do	1,267	1,267	1,553	1,557	[4] 2,357	[4] 2,358	[4] 1,532	[4] 1,641
Value of items that cannot be disclosed: Cement, iron ore (1965–66), lime magnesium compounds, and stone (dimension sandstone 1965–66)	XX	9,579	XX	10,533	XX	[r] 12,082	XX	12,587
Total	XX	220,194	XX	212,193	XX	[r] 210,033	XX	211,360
MISSOURI								
Asphalt, native ... short tons	1,779	$15	1,522	$13	W	W	W	W
Barite ... thousand short tons	287	3,680	267	3,451	329	$4,219	337	$4,280
Cement:								
Portland ... thousand 376-pound barrels	12,402	41,640	12,378	42,618	13,334	46,034	13,848	46,228
Masonry ... thousand 280-pound barrels	417	1,345	334	1,046	377	1,173	382	1,075
Clays ... thousand short tons	1,746	4,467	1,966	4,874	2,226	5,439	2,329	5,989
Coal (bituminous) ... do	3,174	13,196	3,254	13,285	3,564	14,779	3,582	14,834
Copper (recoverable content of ores, etc.) ... short tons	1,816	1,119	2,059	1,343	2,331	1,650	3,913	2,831
Iron ore (usable) ... thousand long tons, gross weight	345	3,085	1,116	14,907	1,784	24,607	1,887	26,450
Lead (recoverable content of ores, etc.) ... short tons	79,844	17,246	120,148	31,479	133,521	41,659	132,255	39,981
Lime ... thousand short tons	1,240	14,386	1,219	14,328	1,442	16,782	1,494	17,910
Natural gas ... million cubic feet	100	27	107	26	84	21	----------	----------
Petroleum (crude) ... thousand 42-gallon barrels	53	150	65	163	73	W	97	W
Sand and gravel ... thousand short tons	10,653	12,260	11,483	13,380	12,068	13,735	10,702	13,540
Silver (recoverable content of ores, etc.) thousand troy ounces	132	168	----------	----------	300	387	----------	----------
Stone ... thousand short tons	30,885	46,130	31,487	47,984	36,247	53,574	35,240	53,398
Zinc (recoverable content of ores, etc.) ... short tons	321	74	1,501	408	4,312	1,259	3,968	1,151
Value of items that cannot be disclosed: Tripoli (1965), and values indicated by symbol W	XX	----------	XX	----------	XX	250	XX	288
Total	XX	158,988	XX	189,305	XX	225,568	XX	227,950

MONTANA								
Clays [3] ---- thousand short tons	38	$45	49	$59	76	$98	58	$56
Coal (bituminous and lignite) ---- do	343	967	346	925	364	1,050	419	1,290
Copper (recoverable content of ores, etc.) ---- short tons	79,762	49,133	103,806	67,682	115,489	81,766	128,061	92,639
Gem stones	NA	W	NA	W	NA	77	NA	109
Gold (recoverable content of ores, etc.) ---- troy ounces	18,520	648	29,115	1,019	22,772	797	25,009	875
Iron ore (usable) ---- thousand long tons, gross weight	13	89	15	99	9	71	12	93
Lead (recoverable content of ores, etc.) ---- short tons	5,000	1,080	4,538	1,189	6,981	2,178	4,409	1,333
Lime ---- thousand short tons	114	1,290	136	1,385	159	1,512	225	2,116
Manganese ore (35 percent or more Mn) short tons, gross weight	5,260	W	20,264	W	23,621	W	W	W
Manganiferous ore (5 to 35 percent Mn) ---- do	1,688	W	3,638	W	1,968	W	1,755	28
Natural gas ---- million cubic feet	30,026	2,253	25,051	1,965	28,105	2,305	30,685	2,547
Petroleum (crude) ---- thousand 42-gallon barrels	30,870	75,323	30,647	74,621	32,778	79,624	35,380	86,278
Pumice ---- thousand short tons	----------	----------	W	W	----------	----------	22	5
Sand and gravel ---- do	14,319	13,756	16,017	17,840	12,048	13,587	13,816	13,523
Silver (recoverable content of ores, etc.) thousand troy ounces	4,242	5,426	5,290	6,840	5,207	6,733	5,320	6,878
Stone ---- thousand short tons	6,109	7,081	7,345	8,477	5,512	5,971	4,150	5,212
Zinc (recoverable content of ores, etc.) ---- short tons	32,941	7,576	29,059	7,904	33,786	9,866	29,120	8,445
Value of items that cannot be disclosed: Antimony (1966), barite, cement, clays (fire clay 1963–64, bentonite 1964–66), fluorspar, gypsum, natural gas liquids, peat, phosphate rock, talc, tungsten (1966), uranium ore (1963–64, 1966), vermiculite, and values indicated by symbol W	XX	17,351	XX	21,447	XX	[r] 22,528	XX	23,846
Total	XX	182,018	XX	211,452	XX	[r] 228,163	XX	245,268
NEBRASKA								
Clays ---- thousand short tons	148	$148	143	$143	[r] 141	[r] $141	153	$153
Gem stones	NA	5	NA	5	NA	5	NA	5
Natural gas ---- million cubic feet	13,051	2,454	11,094	1,707	10,720	1,565	10,196	1,621
Natural gas liquids:								
Natural gasoline ---- thousand gallons	10,119	687	9,587	627	7,822	516	9,195	653
LP gases ---- do	25,931	1,207	24,556	1,092	16,946	847	19,670	1,141
Petroleum (crude) ---- thousand 42-gallon barrels	21,846	61,824	19,113	51,605	17,216	45,796	13,850	37,673
Sand and gravel ---- thousand short tons	11,166	10,680	14,641	15,748	11,993	13,697	13,539	14,179
Stone ---- do	3,700	6,192	3,779	6,417	4,198	6,637	5,055	7,916
Value of items that cannot be disclosed: Cement, lime, and pumice	XX	15,710	XX	14,615	XX	14,622	XX	15,180
Total	XX	98,907	XX	91,959	XX	[r] 83,826	XX	78,521
NEVADA								
Antimony ore and concentrate short tons, antimony content	----------	----------	33	$20	26	$19	68	$63
Barite ---- thousand short tons	120	$760	149	1,261	91	583	139	933
Copper (recoverable content of ores, etc.) ---- short tons	81,738	50,351	67,272	43,861	71,332	50,503	78,720	56,946
Gem stones	NA	100	NA	100	NA	100	NA	100
Gold (recoverable content of ores, etc.) ---- troy ounces	98,879	3,461	90,469	3,166	229,050	8,017	366,903	12,842

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
NEVADA—Continued								
Gypsum ---- thousand short tons	890	$3,216	799	$2,894	710	$2,518	594	$2,023
Iron ore (usable) ---- thousand long tons, gross weight	772	3,921	911	5,048	1,141	5,330	1,000	4,931
Lead (recoverable content of ores, etc.) ---- short tons	1,126	243	809	212	2,277	710	3,581	1,083
Mercury ---- 76-pound flasks	4,944	937	3,262	1,027	3,333	1,902	3,355	1,482
Perlite ---- short tons	22,910	192	15,603	135	13,780	121	W	W
Petroleum (crude) ---- thousand 42-gallon barrels	118	W	255	W	209	W	307	W
Pumice ---- thousand short tons	W	W	W	W	68	187	55	190
Sand and gravel ---- do	9,688	10,513	14,142	14,427	9,455	11,796	9,085	9,134
Silver (recoverable content of ores, etc.) thousand troy ounces	215	275	172	223	507	656	867	1,122
Stone ---- thousand short tons	639	1,101	788	1,396	1,248	2,247	2,002	2,519
Sulfur ore ---- long tons	586	11	274	5	336	6	---	---
Talc and soapstone ---- short tons	4,243	50	5,322	58	3,592	31	4,715	24
Zinc (recoverable content of ores, etc.) ---- do	571	131	582	158	3,858	1,127	5,827	1,690
Value of items that cannot be disclosed: Brucite (1965–66), cement (1965–66), clays, diatomite, fluorspar, lime, lithium minerals (1966), magnesite, molybdenum, peat (1964–66), salt, tungsten, uranium ore, and values indicated by symbol W	XX	10,215	XX	11,146	XX	r14,113	XX	17,550
Total	XX	85,477	XX	85,137	XX	r99,966	XX	112,632
NEW HAMPSHIRE								
Clays ---- thousand short tons	47	$40	46	$40	53	$47	51	$51
Peat ---- short tons	---	---	---	---	---	---	175	2
Sand and gravel ---- thousand short tons	7,581	4,376	8,768	4,996	10,584	5,559	7,626	4,807
Stone ---- do	137	1,566	202	2,138	153	1,932	206	2,091
Value of items that cannot be disclosed: Other nonmetals	XX	109	XX	128	XX	127	XX	49
Total	XX	6,091	XX	7,302	XX	7,665	XX	7,000
NEW JERSEY								
Clays ---- thousand short tons	498	$1,392	500	$1,441	506	$1,388	488	$1,319
Gem stones	NA	9	NA	10	NA	10	NA	10
Peat ---- short tons	23,685	241	W	W	40,480	431	36,312	489
Sand and gravel ---- thousand short tons	16,672	25,245	17,661	27,079	17,389	28,646	17,782	29,322
Stone ---- do	11,229	25,654	12,326	28,461	12,232	27,247	12,453	28,056
Zinc (recoverable content of ores, etc.) [10] ---- short tons	32,738	7,855	32,926	8,935	38,297	11,106	25,237	7,319

Value of items that cannot be disclosed: Iron ore, lime, magnesium compounds, manganiferous residuum, greensand marl, titanium concentrate, and values indicated by symbol W	XX	12,880	XX	12,246	XX	11,330	XX	9,080
Total	XX	73,276	XX	78,172	XX	80,158	XX	75,595
NEW MEXICO								
Barite ... thousand short tons	1	$6	W	W	(5)	$2	----------	----------
Carbon dioxide, natural ... thousand cubic feet	854,339	63	816,168	$61	833,819	62	795,885	$58
Clays ... thousand short tons	W	140	[3] 104	[3] 167	60	101	W	W
Coal (bituminous) ... do	1,945	5,629	2,969	9,763	3,212	10,710	2,755	9,110
Copper (recoverable content of ores, etc. ... short tons	83,037	51,151	86,104	56,140	98,658	69,850	108,614	78,571
Fluorspar ... do	----------	----------	137	3	----------	----------	----------	----------
Gem stones	NA	45	NA	45	NA	45	NA	45
Gold (recoverable content of ores, etc.) ... troy ounces	7,805	273	6,110	214	9,641	337	9,295	325
Gypsum ... thousand short tons	179	656	W	W	W	W	146	545
Helium, grade A ... thousand cubic feet	[r] 78,200	[r] 2,737	82,105	2,958	80,583	[r] 2,821	95,900	3,357
Lead (recoverable content of ores, etc.) ... short tons	1,014	219	1,626	426	3,387	1,057	1,596	482
Lime ... thousand short tons	27	377	25	352	33	465	34	472
Manganese ore (35 percent or more Mn) short tons, gross weight	5,362	137	5,794	149	5,637	156	W	W
Manganiferous ore (5 to 35 percent Mn) ... do	41,144	W	46,657	300	50,090	328	47,590	324
Mica: Scrap ... short tons	W	W	6,922	105	4,263	45	W	W
Natural gas ... million cubic feet	808,377	96,197	873,947	101,932	937,205	110,590	998,076	124,760
Natural gas liquids:								
Natural gasoline and cycle products ... thousand gallons	291,388	17,555	356,047	21,570	358,487	20,824	338,732	19,736
LP gases ... do	728,200	21,801	739,190	21,641	759,311	25,817	816,202	31,832
Perlite ... short tons	259,113	2,212	286,329	2,568	331,011	2,905	343,334	3,423
Petroleum (crude) ... thousand 42-gallon barrels	109,941	316,574	113,863	326,565	119,166	334,977	124,154	352,101
Potassium salts ... thousand short tons, K_2O equivalent	2,643	101,458	2,675	104,861	2,848	117,771	2,953	108,653
Pumice ... thousand short tons	322	850	260	760	264	915	245	787
Salt ... do	54	472	62	559	64	572	66	716
Sand and gravel ... do	8,402	12,843	8,781	10,160	11,763	12,130	15,503	13,029
Silver (recoverable content of ores, etc.) thousand troy ounces	256	328	242	313	288	372	243	314
Stone ... thousand short tons	2,509	4,236	2,760	4,244	1,911	3,020	2,652	4,056
Uranium ore ... short tons	2,304,577	41,372	2,093,350	38,203	2,013,861	38,311	2,080,481	38,754
Vanadium (recoverable in ore and concentrate) ... do	23	W	W	154	W	221	W	53
Zinc (recoverable content of ores, etc.) ... do	12,938	2,976	29,833	8,115	36,460	10,646	29,296	8,496
Value of items that cannot be disclosed: Cement, fire clay (1964), iron ore, molybdenum, tin (1964–66), and values indicated by symbol W	XX	8,249	XX	7,802	XX	8,070	XX	20,328
Total	XX	[r] 688,556	XX	720,130	XX	[r] 773,120	XX	820,327
NEW YORK								
Clays ... thousand short tons	1,598	$2,186	1,499	$1,993	1,354	$1,717	1,464	$1,726
Emery ... short tons	6,732	119	9,214	172	10,720	204	11,102	210
Gem stones	NA	10	NA	10	NA	10	NA	10

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
NEW YORK—Continued								
Gypsum thousand short tons	647	$3,339	653	$3,321	662	$3,511	559	$2,998
Lead (recoverable content of ores, etc.) short tons	1,009	218	732	192	601	188	1,097	332
Lime thousand short tons	W	W	W	W	W	W	1,096	9,870
Natural gas million cubic feet	8,962	1,169	3,108	963	3,340	1,029	2,699	837
Peat short tons	21,358	178	32,574	261	25,098	232	27,211	250
Petroleum (crude) thousand 42-gallon barrels	1,679	7,707	1,874	8,321	1,632	7,246	1,735	7,925
Salt thousand short tons	4,782	34,228	4,816	34,216	5,002	35,771	4,980	36,203
Sand and gravel do	37,381	37,274	39,282	38,583	39,225	40,370	41,903	43,091
Silver (recoverable content of ores, etc.) thousand troy ounces	20	25	13	17	11	15	22	28
Stone thousand short tons	26,611	44,549	29,141	46,669	30,801	48,675	34,130	54,543
Zinc (recoverable content of ores, etc.) short tons	53,495	12,304	60,754	16,525	69,880	20,405	73,454	21,302
Value of items that cannot be disclosed: Cement, abrasive garnet, iron ore, talc, titanium concentrate, wollastonite, and values indicated by symbol W	XX	115,768	XX	137,202	XX	130,684	XX	121,939
Total	XX	259,074	XX	288,445	XX	290,057	XX	301,264
NORTH CAROLINA								
Abrasive stones (millstones)	NA	$2	---	---	---	---	---	---
Clays [3] thousand short tons	2,735	1,761	3,199	$2,064	3,383	$2,162	3,381	$2,241
Feldspar long tons	267,654	2,821	r281,449	r2,342	278,990	3,153	301,610	3,157
Gem stones	NA	14	NA	15	NA	15	NA	15
Gold (recoverable content of ores, etc.) troy ounces	33	1	---	---	---	---	---	---
Iron ore (usable) thousand long tons	1	10	---	---	---	---	---	---
Lead (recoverable content of ores, etc.) short tons	62	13	---	---	---	---	---	---
Mica:								
Scrap do	61,598	1,497	64,010	2,027	72,199	1,987	63,480	2,348
Sheet pounds	92,961	13	242,662	58	713,293	185	4,500	1
Phosphate rock thousand short tons	---	---	7	41	---	---	W	W
Sand and gravel do	11,028	10,132	11,150	10,404	10,499	10,076	11,601	11,132
Silver (recoverable content of ores, etc.) thousand troy ounces	27	34	---	---	---	---	---	---
Stone thousand short tons	15,701	25,683	[4] 17,943	[4] 30,378	[4] 18,835	[4] 30,920	[4] 22,377	[4] 36,136
Talc and pyrophyllite short tons	106,652	446	106,035	495	109,721	556	113,366	576
Zinc (recoverable content of ores, etc.) do	13	3	---	---	---	---	---	---
Value of items that cannot be disclosed: Asbestos, cement, clay (kaolin), copper (1963), lithium minerals, olivine, stone (crushed and dimension marble and dimension slate 1964–66), tungsten concentrate (1963–64), and values indicated by symbol W	XX	2,095	XX	7,903	XX	11,329	XX	16,272
Total	XX	44,525	XX	55,727	XX	60,383	XX	71,878

NORTH DAKOTA

Clays ... thousand short tons	[3] 5	[3] $10	85	$119	81	$114	68	$92
Coal (lignite) ... do	2,399	5,250	2,637	5,659	2,732	5,848	3,543	6,976
Gem stones	NA	1	NA	1	NA	1	NA	1
Natural gas ... million cubic feet	32,798	6,264	34,512	7,634	35,652	5,704	46,585	7,547
Natural gas liquids:								
Natural gasoline ... thousand gallons	20,511	1,339	21,368	1,338	21,059	1,263	23,200	1,415
LP gases ... do	79,653	3,166	84,338	2,960	85,174	3,066	91,884	3,859
Petroleum (crude) ... thousand 42-gallon barrels	25,030	68,332	25,731	63,813	26,350	65,875	27,126	69,170
Sand and gravel ... thousand short tons	9,529	9,193	10,520	10,142	7,574	7,895	10,145	10,568
Stone ... do	132	132	31	56	356	624	170	305
Uranium ore ... short tons	5,567	141	W	W	44,558	1,359	W	W
Value of items that cannot be disclosed: Clay (bentonite 1963, miscellaneous clay 1963), lime (1965–66), molybdenum (1964–66), peat, salt, vandium (1965), and values indicated by symbol W	XX	875	XX	1,144	XX	1,129	XX	1,874
Total	XX	94,703	XX	92,866	XX	92,878	XX	101,807

OHIO

Cement:								
Portland ... thousand 376-pound barrels	16,218	$53,244	15,553	$50,647	14,786	$47,499	15,181	$48,740
Masonry ... thousand 280-pound barrels	1,023	3,084	1,068	3,127	1,050	3,004	976	2,785
Clays ... thousand short tons	4,841	13,959	5,005	14,426	5,070	14,816	5,089	14,522
Coal (bituminous) ... do	36,790	136,113	37,310	137,776	39,390	146,028	43,341	164,444
Gem stones	NA	3	NA	3	NA	3	NA	3
Lime ... thousand short tons	3,207	45,957	3,664	53,308	3,831	53,208	3,858	50,997
Natural gas ... million cubic feet	36,817	8,909	37,106	8,880	35,684	8,421	43,133	10,223
Peat ... short tons	6,910	109	6,363	83	5,352	80	5,214	84
Petroleum (crude) ... thousand 42-gallon barrels	6,039	19,023	15,859	46,420	12,908	37,940	10,899	32,700
Salt ... thousand short tons	4,245	29,682	4,537	31,092	5,026	34,816	5,138	35,735
Sand and gravel ... do	37,790	44,368	37,771	45,567	40,852	49,305	43,851	52,909
Stone ... do	37,537	62,787	[4] 37,715	[4] 61,814	42,263	66,969	45,002	72,900
Value of items that cannot be disclosed: Abrasive stone, gypsum, stone (calcareous marl 1964)	XX	1,742	XX	1,794	XX	2,163	XX	1,998
Total	XX	418,980	XX	454,937	XX	464,252	XX	488,040

OKLAHOMA

Clays [3] ... thousand short tons	898	$911	835	$854	794	$806	745	$754
Coal (bituminous) ... do	1,008	5,667	1,028	5,474	974	5,520	843	4,935
Gypsum ... do	531	1,462	694	1,899	761	2,343	785	2,212
Helium, grade A ... thousand cubic feet	r 300,400	r 10,514	298,803	8,591	r 310,700	r 10,874	352,400	12,333
Lead (recoverable content of ores, etc.) ... short tons	3,192	689	2,781	729	2,813	878	2,999	907
Natural gas ... million cubic feet	1,233,883	160,405	1,316,201	166,747	1,320,995	182,297	1,351,225	189,172
Natural gas liquids:								
Natural gasoline and cycle products ... thousand gallons	555,467	35,131	554,053	34,011	570,129	34,561	576,124	35,715
LP gases ... do	810,894	28,981	880,804	28,055	894,665	32,208	986,254	44,381
Petroleum (crude) ... thousand 42-gallon barrels	201,962	587,709	202,524	587,320	203,441	587,944	224,839	654,281

See footnotes at end of table.

Table 5.—Mineral production[1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
OKLAHOMA—Continued								
Salt thousand short tons	4	$26	6	$41	9	$65	W	W
Sand and gravel do	5,420	6,116	6,680	7,003	5,218	6,023	6,040	7,565
Stone do	13,817	16,160	13,987	15,087	16,417	18,071	15,334	17,393
Zinc (recoverable content of ores, etc.) short tons	13,245	3,046	12,159	3,307	12,715	3,713	11,237	3,259
Value of items that cannot be disclosed: Clay (bentonite), cement, copper (1965–66), lime, pumice, silver (1965–66), tripoli, and values indicated by symbol W	XX	22,929	XX	22,670	XX	23,953	XX	24,484
Total	XX	r 879,746	XX	881,788	XX	r 909,256	XX	997,391
OREGON								
Clays thousand short tons	279	$330	290	$3 6	291	$359	361	$362
Copper (recoverable content of ores, etc.) short tons	W	W	15	10	W	W	W	W
Diatomite do	150	3	W	W	W	W	W	W
Gem stones	NA	W	NA	W	NA	750	NA	750
Gold (recoverable content of ores, etc.) troy ounces	1,809	63	661	23	499	17	281	10
Lime thousand short tons	87	1,835	95	1,918	98	1,853	116	2,283
Mercury 76-pound flasks	W	W	126	40	1,364	779	700	309
Nickel (content of ore and concentrate) short tons	13,394	W	15,420	W	16,188	W	15,036	W
Peat do	---	---	---	---	---	---	900	17
Perlite do	---	---	5	(5)	---	---	W	W
Pumice thousand short tons	422	664	566	909	657	1,181	714	1,256
Sand and gravel do	15,715	18,850	18,253	25,158	21,800	32,849	35,327	34,986
Silver (recoverable content of ores, etc.) thousand troy ounces	58	74	14	19	9	11	(5)	(5)
Stone thousand short tons	19,692	24,197	16,120	19,296	21,212	27,301	33,288	48,335
Tungsten concentrate short tons, 60-percent WO_3 basis	---	---	1	1	---	---	---	---
Uranium ore short tons	1,763	45	27	2	---	---	---	---
Zinc (recoverable content of ores, etc.) do	3	1	W	W	W	W	---	---
Value of items that cannot be disclosed: Cement, iron ore (pigment material 1963, 1965–66), lead (1963–65), vanadium (1964), and values indicated by symbol W	XX	16,630	XX	16,631	XX	r 17,866	XX	19,176
Total	XX	62,692	XX	64,363	XX	82,966	XX	107,484
PENNSYLVANIA								
Cement:								
Portland thousand 376-pound barrels	38,316	$118,203	37,663	$113,409	40,153	$116,925	40,004	$114,357
Masonry thousand 280-pound barrels	2,510	6,611	2,818	7,594	3,006	7,991	2,960	7,860

Clays [3] thousand short tons	3,191	14,717	3,187	15,814	3,394	17,697	3,293	17,033
Coal:								
Anthracite do	18,267	153,503	17,184	148,648	14,866	122,021	12,941	100,663
Bituminous do	71,501	350,085	76,531	388,218	80,308	407,267	81,443	425,168
Copper (recoverable content of ores, etc.) short tons	4,434	2,731	3,614	2,356	4,354	3,083	3,178	2,299
Gem stones	NA	4	NA	4	NA	4	NA	4
Lime thousand short tons	1,188	17,548	1,440	20,656	1,568	22,496	1,585	22,816
Natural gas million cubic feet	92,657	24,091	81,720	22,349	84,461	22,551	90,914	25,820
Natural gas liquids:								
Natural gasoline thousand gallons	1,311	78	1,138	64	1,022	55	3,211	186
LP gases do	1,721	118	1,481	100	1,683	109	1,863	121
Peat short tons	33,952	339	39,500	397	45,600	527	52,912	562
Petroleum (crude) thousand 42-gallon barrels	5,083	23,178	5,113	22,088	4,922	21,263	4,337	19,300
Sand and gravel thousand short tons	14,066	23,539	16,199	26,414	18,502	29,606	17,567	29,562
Stone do	49,536	83,450	52,829	91,075	56,806	99,627	59,088	99,233
Zinc (recoverable content of ores, etc.) [10] short tons	27,389	6,572	30,754	8,345	27,635	8,014	28,080	8,143
Value of items that cannot be disclosed: Clays (kaolin), cobalt, gold, iron ore, scrap mica, pyrites, pyrophyllite, silver, and tripoli	XX	32,644	XX	34,519	XX	34,587	XX	30,281
Total	XX	857,411	XX	902,050	XX	913,823	XX	903,408
RHODE ISLAND								
Sand and gravel thousand short tons	1,750	$1,838	1,647	$1,613	1,681	$1,811	2,276	$2,212
Stone do	442	968	450	935	437	1,119	535	1,734
Value of items that cannot be disclosed: Other nonmetals	XX	1	XX	1	XX	1	XX	1
Total	XX	2,807	XX	2,549	XX	2,931	XX	3,947
SOUTH CAROLINA								
Clays thousand short tons	1,491	$7,589	1,743	$8,309	1,837	$8,539	2,139	$8,830
Sand and gravel do	4,051	4,750	4,622	5,262	5,248	6,688	6,016	7,668
Stone do	7,262	10,926	[4] 6,109	[4] 9,176	[4] 5,948	[4] 8,447	8,129	12,510
Value of items that cannot be disclosed: Barite, cement, feldspar, gem stones (1963), kyanite, scrap mica, peat, pyrites, stone (crushed limestone 1964–65 and dimension granite 1965), and vermiculite	XX	13,214	XX	15,966	XX	17,587	XX	16,585
Total	XX	36,479	XX	38,713	XX	41,261	XX	45,593
SOUTH DAKOTA								
Beryllium concentrate short tons, gross weight	(5)	(5)	W	W	W	W	124	$40
Cement:								
Portland thousand 376-pound barrels	1,869	$5,909	2,001	$6,873	1,575	$5,127	1,974	6,367
Masonry thousand 280-pound barrels	60	198	57	200	55	180	51	170
Clays thousand short tons	240	960	245	1,076	223	1,220	231	870
Coal (lignite) do	16	62	13	63	10	49	10	45
Copper (recoverable content of ores, etc.) short tons	1	(5)	----------	----------	----------	----------	----------	----------

See footnotes at end of table.

Table 5.—Mineral production[1] in the United States, by States—Continued

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
SOUTH DAKOTA—Continued								
Feldspar.....long tons	25,590	$157	26,980	$180	51,560	$346	83,950	$542
Gem stones	NA	20	NA	20	NA	20	NA	20
Gold (recoverable content of ores, etc.).....troy ounces	576,726	20,185	616,913	21,592	628,259	21,989	606,467	21,226
Gypsum.....thousand short tons	24	97	19	76	7	27	17	68
Lead (recoverable content of ores, etc.).....short tons	4	1	-----	-----	-----	-----	-----	-----
Lithium minerals.....do	W	W	W	W	150	[6] 5	W	W
Mica:								
Scrap.....do	W	W	996	32	W	W	W	W
Sheet.....pounds	10,000	(5)	-----	-----	-----	-----	-----	-----
Petroleum (crude).....thousand 42-gallon barrels	215	428	247	495	219	438	239	479
Sand and gravel.....thousand short tons	20,806	16,313	13,770	13,641	13,998	14,155	13,630	13,585
Silver (recoverable content of ores, etc.) thousand troy ounces	117	150	133	172	129	167	110	142
Stone.....thousand short tons	2,794	7,339	2,118	6,245	1,554	5,387	2,186	7,995
Uranium ore.....short tons	72,088	1,931	110,147	1,551	44,738	303	W	W
Value of items that cannot be disclosed: Lime, molybdenum (1964–66), tin (1966), vanadium, and values indicated by symbol W	XX	366	XX	608	XX	762	XX	1,158
Total	XX	54,116	XX	52,824	XX	50,175	XX	52,707
TENNESSEE								
Barite.....thousand short tons	24	$404	39	$519	31	$442	29	$412
Cement:								
Portland.....thousand 376-pound barrels	8,283	26,760	8,343	26,791	8,724	27,535	8,177	25,718
Masonry.....thousand 280-pound barrels	1,161	3,079	1,212	3,228	1,185	3,140	1,095	2,822
Clays.....thousand short tons	[3] 1,238	[3] 5,248	[3] 1,310	[3] 5,576	1,495	6,103	[3] 1,359	[3] 4,909
Coal (bituminous).....do	6,121	22,689	5,990	22,674	5,865	20,930	6,309	23,763
Copper (recoverable content of ores, etc.).....short tons	13,717	8,450	13,889	9,056	14,823	10,495	15,410	11,148
Gem stones	NA	(5)	-----	-----	-----	-----	-----	-----
Gold (recoverable content of ores, etc.).....troy ounces	137	5	133	5	122	4	141	5
Lead (recoverable content of ores, etc.).....short tons	-----	-----	-----	-----	-----	-----	181	55
Natural gas.....million cubic feet	90	17	77	15	85	16	-----	-----
Petroleum (crude).....thousand 42-gallon barrels	16	W	10	W	11	W	7	W
Phosphate rock.....thousand short tons	2,634	17,876	2,734	18,971	2,954	22,296	3,125	23,886
Sand and gravel.....do	7,613	9,443	7,972	10,245	8,193	10,690	8,628	11,142
Silver (recoverable content of ores, etc.) thousand troy ounces	108	138	91	117	94	122	101	130
Stone.....thousand short tons	26,825	38,113	[4] 26,497	[4] 38,239	[4] 28,888	[4] 38,859	[4] 31,260	[4] 41,432
Zinc (recoverable content of ores, etc.).....short tons	95,847	22,045	115,943	31,536	122,387	35,737	103,117	29,904

Value of items that cannot be disclosed: Clay (fuller's earth) (1963–64, 1966), iron ore (1963), lime, pyrites, stone (crushed sandstone 1964–66), and values indicated by symbol W	XX	6,458	XX	6,993	XX	6,572	XX	7,258
Total	XX	160,725	XX	173,965	XX	182,941	XX	182,584
TEXAS								
Cement:								
Portland ... thousand 376-pound barrels	29,104	$92,734	30,030	$94,492	30,820	$97,598	30,827	$97,188
Masonry ... thousand 280-pound barrels	930	2,858	930	2,805	968	3,011	884	2,872
Clays ... thousand short tons	[3] 4,199	[3] 6,849	[3] 4,156	[3] 6,695	4,469	6,865	4,516	7,187
Gem stones	NA	150	NA	140	NA	150	NA	150
Gypsum ... thousand short tons	1,099	3,999	1,131	4,049	1,045	3,794	899	3,258
Helium: Crude ... thousand cubic feet	679,400	6,997	1,026,504	10,381	1,015,708	10,330	1,030,500	10,605
Grade A ... do	349,100	12,218	358,747	11,107	350,000	12,250	364,100	12,744
Lime ... thousand short tons	1,131	13,026	1,350	17,201	1,338	19,663	1,473	18,696
Natural gas ... million cubic feet	6,205,034	775,629	6,490,202	809,180	6,636,555	858,396	6,953,790	903,993
Natural gas liquids:								
Natural gasoline and cycle products ... thousand gallons	3,320,416	218,975	3,512,460	232,245	3,772,471	256,959	3,890,267	269,332
LP gases ... do	5,366,831	169,695	5,521,236	167,492	5,847,601	204,666	6,359,870	260,755
Perlite ... short tons	----------	----------	300	3	1,000	8	W	W
Petroleum (crude) ... thousand 42-gallon barrels	977,835	2,908,380	989,525	2,928,994	1,000,749	2,962,119	1,057,706	3,141,387
Salt ... thousand short tons	5,965	22,355	6,410	28,797	6,964	30,771	7,724	33,797
Sand and gravel ... do	33,256	36,311	29,155	33,394	32,649	36,075	26,222	31,313
Stone ... do	43,142	54,007	40,240	52,070	39,520	53,659	43,578	56,659
Sulfur (Frasch process) ... thousand long tons	2,550	50,109	3,302	65,780	3,674	[r] 83,282	3,703	96,820
Talc and soapstone ... short tons	72,658	368	89,334	395	64,211	204	102,399	367
Values of items that cannot be disclosed: Native asphalt, barite, bromine, clays (fuller's earth 1963–65, kaolin 1964), coal (lignite), graphite, iron ore, magnesium chloride (for metal), magnesium compounds (except for metal), mercury (1965–66), pumice, sodium sulfate, uranium ore, and values indicated by symbol W	XX	62,777	XX	83,604	XX	[r] 78,328	XX	72,627
Total	XX	[r] 4,437,437	XX	4,548,824	XX	[r] 4,718,128	XX	5,019,750
UTAH								
Carbon dioxide, natural ... thousand cubic feet	100,895	$7	96,432	$7	86,201	$6	94,006	$7
Clays [3] ... thousand short tons	125	470	127	330	149	332	89	252
Coal (bituminous) ... do	4,360	22,755	4,720	33,184	4,992	31,811	4,635	26,763
Copper (recoverable content of ores, etc.) ... short tons	203,095	125,107	199,588	130,131	259,138	183,470	265,383	191,978
Fluorspar ... short tons	247	7	W	W	W	W	W	W
Gem stones	NA	75	NA	75	NA	75	NA	75
Gold (recoverable content of ores, etc.) ... troy ounces	285,907	10,007	287,674	10,069	426,299	14,921	438,736	15,356
Iron ore (usable) ... thousand long tons, gross weight	1,881	12,900	2,082	14,306	2,139	14,229	1,956	13,478
Lead (recoverable content of ores, etc.) ... short tons	45,028	9,726	40,249	10,545	37,700	11,762	64,124	19,385
Lime ... thousand short tons	156	2,668	163	2,917	189	3,470	200	3,640
Natural gas ... million cubic feet	77,122	14,036	79,739	10,904	71,616	8,952	69,366	8,809
Perlite ... short tons	1,313	7	2,003	12	W	W	W	W
Petroleum (crude) ... thousand 42-gallon barrels	33,435	90,943	28,575	74,867	25,298	66,045	24,112	63,760
Pumice ... thousand short tons	28	46	W	W	W	W	W	W

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
	UTAH—Continued							
Salt thousand short tons	325	$3,462	371	$3,848	384	$3,591	427	$3,770
Sand and gravel do	11,709	10,408	10,218	10,405	10,032	10,464	12,368	12,937
Silver (recoverable content of ores, etc.) thousand troy ounces	4,791	6,128	4,552	5,886	5,636	7,287	7,755	10,028
Stone thousand short tons	2,346	4,040	3,105	6,930	r 2,328	r 4,765	2,246	4,269
Sulfur ore long tons, gross weight	----------	----------	----------	----------	2,156	3	----------	----------
Uranium ore short tons	743,792	23,852	761,180	26,385	377,989	9,014	236,860	5,169
Vanadium (recoverable in ore and concentrate) do	382	W	405	1,214	387	1,353	353	1,519
Zinc (recoverable content of ores, etc.) do	36,179	8,321	31,428	8,548	27,747	8,102	37,323	10,824
Value of items that cannot be disclosed: Asphalt (gilsonite), beryllium (1963), cement, clays (fire clay, kaolin 1965–66), gypsum, magnesium chloride for metal (1966), molybdenum, natural gas liquids, phosphate rock, potassium salts, pyrites (1966), and values indicated by symbol W	XX	40,458	XX	40,867	XX	51,939	XX	52,243
Total	XX	385,423	XX	391,430	XX	r 431,591	XX	444,262
	VERMONT							
Peat short tons	----------	----------	286	$4	780	$3	333	$5
Sand and gravel thousand short tons	2,375	$1,410	1,764	1,494	2,084	1,670	2,323	1,744
Stone do	2,159	19,193	2,070	20,652	2,591	21,564	2,650	19,926
Value of items that cannot be disclosed: Asbestos, clays, gem stones, lime, and talc	XX	3,788	XX	3,977	XX	4,155	XX	4,235
Total	XX	24,391	XX	26,127	XX	27,392	XX	25,910
	VIRGINIA							
Clays thousand short tons	1,410	$1,558	1,440	$1,614	1,415	$1,657	1,486	$1,813
Coal (bituminous) do	30,531	120,972	31,654	123,123	34,053	139,291	35,565	153,341
Gem stones	NA	6	NA	6	NA	7	NA	7
Lead (recoverable content of ores, etc.) short tons	3,500	756	3,857	1,010	3,651	1,139	3,078	930
Lime thousand short tons	639	8,058	780	9,781	847	10,584	840	10,486
Natural gas million cubic feet	2,085	488	1,600	479	3,152	942	4,249	1,275
Petroleum (crude) thousand 42-gallon barrels	3	W	6	W	4	W	1	W
Sand and gravel thousand short tons	10,400	17,752	10,588	13,722	15,322	18,019	17,191	16,635
Soapstone short tons	3,696	9	3,775	9	3,549	9	3,989	10
Stone thousand short tons	27,653	45,529	30,407	52,153	36,350	59,397	34,151	55,550
Zinc (recoverable content of ores, etc.) [10] short tons	23,988	5,725	21,004	5,700	20,491	5,942	17,666	5,123
Value of items that cannot be disclosed: Cement, feldspar, gypsum, iron ore (pigment materials), kyanite, salt, titanium concentrate, and values indicated by symbol W	XX	28,211	XX	29,818	XX	30,990	XX	29,127
Total	XX	229,064	XX	237,415	XX	267,977	XX	274,297

WASHINGTON								
Barite……thousand short tons	---	---	---	---	(5)	$1	---	---
Carbon dioxide……thousand cubic feet	W	W	W	W	11,848	3	W	W
Cement:								
Portland……thousand 376-pound barrels	W	W	W	W	6,258	22,351	6,820	$24,340
Masonry……thousand 280-pound barrels	W	W	W	W	62	201	60	187
Clay [3]……thousand short tons	134	$123	128	$119	162	211	185	249
Coal (bituminous)……do	190	1,380	68	575	55	497	59	514
Copper (recoverable content of ores, etc.)……short tons	W	W	35	23	30	21	34	25
Gem stones	NA	W	NA	W	NA	75	NA	75
Lead (recoverable content of ores, etc.)……short tons	5,374	1,161	5,731	1,502	6,328	1,974	5,859	1,771
Peat……do	37,248	188	35,609	170	29,729	131	25,599	136
Sand and gravel……thousand short tons	22,760	20,490	31,920	25,971	31,301	27,234	29,002	26,806
Stone……do	12,934	16,346	10,498	15,204	12,461	17,446	13,250	20,273
Talc and soapstone……short tons	2,969	18	2,680	18	2,861	17	3,880	22
Uranium ore……do	117,286	2,545	147,005	3,601	73,495	1,871	W	W
Zinc (recoverable content of ores, etc.)……do	22,270	5,122	24,296	6,609	22,230	6,491	24,772	7,184
Value of items that cannot be disclosed: Abrasive stones (1963), clays (fire clay, bentonite 1965), diatomite, epsom salts (1963), gold, gypsum (1966), lime, pumice, magnesite, mercury (1965), olivine, silver, tungsten (1965), vanadium (1966), and values indicated by symbol W	XX	24,057	XX	27,518	XX	[r] 7,648	XX	7,510
Total	XX	71,430	XX	81,310	XX	86,172	XX	89,092
WEST VIRGINIA								
Clays……thousand short tons	414	$2,044	[3] 261	[3] $309	[3] 289	[3] $328	[3] 300	[3] $334
Coal (bituminous)……do	132,568	634,794	141,409	693,572	149,191	726,096	149,681	753,851
Lime……do	W	W	W	W	W	W	240	3,492
Natural gas……million cubic feet	210,223	55,919	202,765	50,968	207,416	48,743	211,610	49,940
Petroleum (crude)……thousand 42-gallon barrels	3,350	13,367	3,370	12,975	3,530	13,591	3,674	14,623
Salt……thousand short tons	W	W	1,033	3,666	1,153	5,539	1,147	5,446
Sand and gravel……do	4,808	10,578	5,472	11,555	5,253	11,480	5,448	11,569
Stone [4]……do	9,452	14,489	7,481	13,105	8,482	14,587	9,738	16,354
Value of items that cannot be disclosed: Calcium-magnesium chloride, cement, clay (fire clay 1964–66), gem stones, natural gas liquids, stone (dimension sandstone) and values indicated by symbol W	XX	37,051	XX	36,541	XX	39,240	XX	36,191
Total	XX	768,242	XX	822,691	XX	859,604	XX	891,800
WISCONSIN								
Abrasive stones……short tons	[11] 561	[11] $21	W	W	W	W	---	---
Clays……thousand short tons	111	140	119	$147	119	$147	123	$148
Iron ore (usable)……thousand long tons, gross weight	938	W	524	W	141	W	---	---
Lead (recoverable content of ores, etc.)……short tons	1,116	241	1,742	456	1,645	513	1,694	512
Lime……thousand short tons	W	W	W	W	197	3,076	204	3,186
Peat……short tons	2,667	136	3,261	136	3,090	122	2,379	164
Sand and gravel……thousand short tons	35,363	24,863	34,348	24,695	38,751	27,707	41,523	30,713

See footnotes at end of table.

Table 5.—Mineral production [1] in the United States, by States—Continued

Mineral	1963		1964		1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
WISCONSIN—Continued								
Stone ____ thousand short tons__	13,583	$18,744	13,901	$20,232	15,344	$21,924	16,150	$23,735
Zinc (recoverable content of ores, etc.) ____ short tons__	15,114	3,476	26,278	7,148	26,993	7,882	24,775	7,185
Value of items that cannot be disclosed: Abrasive stones (tube-mill liners, 1963–66), cement, gem stones, and values indicated by symbol W ____	XX	19,220	XX	17,193	XX	11,628	XX	10,367
Total ____	XX	66,841	XX	70,007	XX	72,999	XX	76,010
WYOMING								
Clays ____ thousand short tons__	1,187	$12,385	1,271	$12,816	1,352	$13,633	1,559	$15,874
Coal (bituminous) ____ do____	3,124	9,922	3,101	9,774	3,260	10,150	3,670	11,840
Copper (recoverable content of ores, etc.) ____ short tons__	----------	----------	5	3	6	4	----------	----------
Gem stones ____	NA	110	NA	120	NA	120	NA	120
Gold (recoverable content of ores, etc.) ____ troy ounces__	4	(5)	6	(5)	3	(5)	----------	----------
Iron ore (usable) ____ thousand long tons, gross weight__	1,604	17,504	2,056	24,543	2,087	25,198	1,978	19,700
Natural gas ____ million cubic feet__	209,060	29,687	231,613	29,808	235,849	31,840	243,381	35,290
Natural gas liquids:								
Natural gasoline ____ thousand gallons__	86,014	5,523	86,803	5,607	95,093	6,195	96,372	6,281
LP gases ____ do____	150,437	6,203	152,982	6,433	143,331	6,020	166,080	7,308
Petroleum (crude) ____ thousand 42-gallon barrels__	144,407	361,018	138,752	351,043	138,314	345,785	134,470	344,243
Sand and gravel ____ do____	7,901	7,874	5,632	5,936	7,996	8,373	7,187	7,496
Stone ____ do____	1,940	2,991	2,154	3,671	1,594	2,791	1,393	2,560
Uranium ore ____ short tons__	r 1,141,069	r 23,248	1,183,754	23,321	1,048,176	17,758	1,082,197	18,160
Vanadium (recoverable in ore and concentrate) ____ do____	W	435	W	359	W	444	W	555
Value of items that cannot be disclosed: Beryllium concentrate (1963–65), cement, feldspar (1965–66), gypsum, lime, phosphate rock, pumice (1963–64), silver (1964–65), sodium carbonates and sulfates, vermiculite (1963), and values indicated by symbol W ____	XX	24,736	XX	26,822	XX	30,241	XX	36,379
Total ____	XX	r 501,636	XX	500,256	XX	498,552	XX	505,806

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e Estimate. r Revised. NA Not available. W Withheld to avoid disclosing individual company confidential data. XX Not applicable.

[1] Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

[2] Excludes certain cement, included with "Value of items that cannot be disclosed."

[3] Excludes certain clays, included with "Value of items that cannot be disclosed."

[4] Excludes certain stone, included with "Value of items that cannot be disclosed."

[5] Less than ½ unit.

[6] Includes 750 tons of low-grade beryllium ore in 1963.

[7] Excludes shipments from Nye Metals, Inc., included with "Value of items that cannot be disclosed."

[8] Final figure, supersedes figure given in commodity section.

[9] Excludes salt in brine, included with "Value of items that cannot be disclosed."

[10] Recoverable zinc valued at the yearly average price of Prime Western slab zinc, East St. Louis market. Represents value established after transportation, smelting and manufacturing charges have been added to the value of ore at mine.

[11] Grinding pebbles: tube-mill liners included with "Value of items that cannot be disclosed."

Table 6.—Mineral production [1] in the Canal Zone and islands administered by the United States[2]

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
American Samoa:								
Pumice thousand short tons	----------	----------	----------	----------	----------	----------	17	$22
Sand and gravel do	77	$193	22	$20	60	$55	20	18
Stone do	944	2,351	157	234	60	60	12	12
Total	XX	2,544	XX	254	XX	115	XX	52
Canal Zone:								
Sand and gravel thousand short tons	84	87	84	82	83	85	72	91
Stone (crushed) do	162	281	153	349	153	366	114	267
Total	XX	368	XX	431	XX	451	XX	358
Canton: Stone (crushed) thousand short tons	2	6	----------	----------	----------	----------	----------	----------
Guam: Stone do	307	439	469	868	483	925	900	1,396
Virgin Islands: Stone (crushed) do	66	329	69	342	68	302	88	303
Wake: Stone (crushed) do	9	51	2	5	1	4	11	66

XX Not applicable.

[1] Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

[2] Production data for Canton and Wake furnished by U.S. Department of Commerce, Civil Aeronautics Administration; Guam, by the Government of Guam: American Samoa, by the Government of American Samoa.

Table 7.—Mineral production [1] in the Commonwealth of Puerto Rico

Mineral	1963 Quantity	1963 Value (thousands)	1964 Quantity	1964 Value (thousands)	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
Cement thousand 376-pound barrels	7,217	$22,090	7,926	$23,879	7,284	$23,415	7,603	$24,277
Clays thousand short tons	200	158	341	271	357	288	350	271
Lime do	4	103	18	574	27	867	30	960
Salt do	8	131	5	74	8	138	11	183
Sand and gravel do	7,616	10,407	7,816	11,492	8,147	12,405	9,879	14,554
Stone do	5,334	8,237	5,504	8,586	5,344	9,111	5,732	10,541
Total	XX	41,126	XX	44,876	XX	46,224	XX	50,786

XX Not applicable.

[1] Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

Table 8.—U.S. exports of principal minerals and products

Mineral	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Metals:				
Aluminum:				
Ingots, slabs, crude......short tons	203,642	$92,533	188,240	$90,012
Scrap......do	38,547	12,452	48,666	16,239
Plates, sheets, bars, etc......do	[r] 66,528	[r] 52,090	86,396	71,272
Castings and forgings......do	2,256	6,669	2,524	8,592
Antimony: Metals and alloys, crude......do	14	18	29	24
Bauxite, including bauxite concentrates thousand long tons	147	10,736	62	4,275
Aluminum sulfate......short tons	15,641	501	22,059	652
Other aluminum compounds......do	[r] 336,590	31,430	353,364	37,374
Beryllium......pounds	119,761	624	61,254	1,083
Bismuth: Metals and alloys......do	341,868	940	89,382	226
Cadmium......thousand pounds	73	195	379	795
Chrome:				
Ore and concentrate:				
Exports......thousand short tons	7	285	19	740
Reexports......do	95	3,719	173	7,119
Chromic acid......do	1	574	1	482
Ferrochrome......do	12	3,021	4	1,870
Cobalt......thousand pounds	1,441	2,097	1,021	1,822
Columbium metals, alloys and other forms thousand pounds	4	177	7	249
Copper:				
Ore, concentrate, composition metal and unrefined copper (copper content) short tons	15,510	8,369	2,149	927
Refined copper and semimanufactures......do	379,498	317,338	319,314	338,184
Other copper manufactures......do	[r] 6,796	[r] 7,062	6,934	7,804
Copper sulfate or blue vitriol......do	2,135	1,288	3,563	1,725
Copper base alloys......do	80,049	70,116	56,311	60,069
Ferroalloys:				
Ferrosilicon......do	4,585	1,755	5,812	2,004
Ferrophosphorous......do	79,910	2,914	62,942	2,975
Gold:				
Ore and base bullion......troy ounces	49,836	1,744	49,117	1,719
Bullion, refined......do	36,667,207	1,283,352	13,017,549	455,614
Iron ore......thousand long tons	7,085	80,418	7,779	92,157
Iron and steel: Pig iron......short tons	28,225	1,665	12,122	731
Iron and steel products (major):				
Semimanufactures......do	[r] 2,155,991	[r] 381,880	1,375,884	282,130
Manufactured steel mill products......do	[r] 731,834	[r] 347,758	768,990	390,168
Advanced products......do	NA	[r] 99,623	NA	120,435
Iron and steel scrap: Ferrous scrap, including rerolling materials......short tons	6,248,728	199,745	5,880,925	177,461
Lead:				
Pigs, bars, anodes......do	7,811	3,714	5,435	3,966
Scrap......do	3,793	757	498	165
Magnesium:				
Metal and alloys and semimanufactured forms, n.e.c......short tons	18,320	11,525	15,448	10,240
Manganese:				
Ore and concentrate......do	14,150	1,387	16,487	1,491
Ferromanganese......do	3,273	727	545	228
Mercury:				
Exports......76-pound flasks	7,543	5,031	357	197
Reexports......do	494	316	476	280
Molybdenum:				
Ore and concentrates (molybdenum content) thousand pounds	24,096	44,282	29,768	54,765
Metals and alloys, crude and scrap......do	111	414	59	251
Wire......do	23	631	19	624
Semifabricated forms, n.e.c......do	66	516	72	398
Powder......do	603	2,095	120	502
Ferromolybdenum......do	[r] 2,229	[r] 4,983	2,200	4,085
Nickel:				
Alloys and scrap (including Monel metal), ingots, bars, sheets, etc......short tons	[r] 16,553	26,437	21,435	38,597
Catalysts......do	2,547	[r] 6,064	3,135	6,589
Nickel-chrome electric resistance wire......do	380	1,914	475	2,203
Semifabricated forms, n.e.c......do	1,455	[r] 6,119	1,319	4,661
Platinum:				
Ore, concentrate, metal and alloys in ingots, bars, sheets, anodes, and other forms, including scrap......troy ounces	72,925	9,838	102,031	13,414

See footnotes at end of table.

Table 8.—U.S. exports of principal minerals and products—Continued

Mineral	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Metals—Continued				
Platinum—Continued				
Palladium, rhodium, iridium, osmiridium, ruthenium, and osmium (metal and alloys including scrap) troy ounces	30,172	3,758	103,425	6,711
Platinum group manufactures, except jewelry	NA	2,515	NA	3,794
Rare earths:				
Cerium ore, metal, alloys and lighter flints pounds	54,151	221	61,620	209
Silver:				
Ore and base bullion thousand troy ounces	537	697	369	476
Bullion, refined do	39,128	50,727	85,169	110,057
Tantalum:				
Ore, metal, and other forms thousand pounds	305	1,656	198	1,798
Powder do	25	757	51	1,564
Tin:				
Ingots, pigs, bars, etc:				
Exports long tons	2,605	10,078	1,866	6,985
Reexports do	224	880	981	3,849
Tin scrap and other tin-bearing material except tinplate scrap long tons	1,354	1,220	7,233	1,957
Titanium:				
Ore and concentrate short tons	1,201	203	1,300	213
Sponge (including iodide titanium) and scrap do	2,132	2,070	1,733	1,988
Intermediate mill shapes do	605	5,144	1,371	9,585
Mill products, n.e.c do				
Dioxide and pigments do	26,896	7,249	26,872	7,601
Tungsten: Ore and concentrate:				
Exports do	11	18	98	223
Reexports do	[r]130	181	195	557
Vanadium ore and concentrate, pentoxide, etc. (vanadium content) thousand pounds	1,856	3,540	1,771	4,226
Zinc:				
Slabs, pigs, or blocks short tons	5,939	1,765	1,406	749
Sheets, plates, strips, or other forms n.e.c do	5,120	3,051	4,921	3,198
Scrap (zinc content) do	5,617	1,153	4,469	702
Semifabricated forms, n.e.c do	2,764	1,931	1,768	1,207
Zirconium:				
Ore and concentrate do	1,761	287	2,311	326
Metals and alloys and other forms pounds	213,326	1,933	421,516	4,567
Nonmetals:				
Abrasives:				
Dust and powder of precious or semi-precious stones, including diamond dust and powder thousand carats	1,148	3,268	2,403	6,815
Crushing bort do	2,003	7,317	58	325
Industrial diamonds do			1,097	4,470
Diamond grinding wheels do	383	3,053	436	3,331
Other natural and artificial, metallic abrasives and products	NA	36,780	NA	36,812
Asbestos: Unmanufactured:				
Exports short tons	42,995	[r]5,271	46,690	5,712
Reexports do	131	23	306	51
Boron: Boric acid, borates, crude and refined do	174,016	16,922	207,359	20,682
Cement thousand 376-pounds barrels	748	4,288	1,069	4,836
Clays:				
Kaolin or china clay short tons	192,875	6,244	253,408	8,443
Fire clay do	182,446	3,667	215,534	3,396
Other clays do	474,443	15,828	605,625	19,354
Fluorspar do	[r]9,385	[r]315	5,732	301
Graphite do	3,196	419	3,161	428
Gypsum:				
Crude, crushed or calcined thousand short tons	28	1,112	38	1,458
Manufactures, n.e.c	NA	920	NA	1,216
Kyanite and allied minerals short tons	10,238	732	17,339	1,131
Lime do	40,036	942	59,848	1,195
Mica sheet, waste and scrap and ground pounds	7,802,539	589	10,810,194	929
Manufactured do	523,338	1,635	537,556	1,612
Mineral-earth pigments: Iron oxide, natural and manufactured short tons	4,656	1,380	4,753	1,307

See footnotes at end of table.

Table 8.—U.S. exports of principal minerals and products—Continued

Mineral	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Nonmetals—Continued				
Nitrogen compounds (major) thousand short tons	1,638	88,421	2,794	154,559
Phosphate rock do	[r]7,474	[r]66,558	9,255	85,835
Phosphatic fertilizers (superphosphates) do	[r]631	[r]32,147	763	40,705
Pigments and compounds (lead and zinc):				
Lead pigments short tons	2,286	890	2,599	1,044
Zinc pigments do	3,269	1,005	6,650	1,733
Potash:				
Fertilizer do	1,052,305	33,809	1,024,996	32,867
Chemical do	46,289	8,685	28,489	5,292
Quartz, natural, quartzite, cryolite, and chiolite do	4,362	848	2,779	472
Salt:				
Crude and refined thousand short tons	688	4,285	662	4,472
Shipments to noncontiguous Territories do	16	1,263	10	805
Sodium and sodium compounds:				
Sodium sulfate do	13	415	28	779
Sodium carbonate do	277	9,030	346	12,249
Stone:				
Dolomite, block do	253	2,032	101	1,692
Limestone, crushed, ground, broken do	1,165	2,905	1,207	3,500
Marble and other building and monumental thousand cubic feet	[r]264	[r]1,259	NA	1,104
Stone, crushed, ground, broken thousand short tons	73	1,955	276	3,406
Manufactures of stone	NA	1,480	NA	1,432
Sulfur:				
Crude thousand long tons	2,624	64,278	2,326	78,759
Crushed, ground, flowers of do	[r]11	1,271	47	3,404
Talc, crude and ground short tons	69,597	3,486	70,377	3,917
Mineral fuels:				
Carbon black thousand pounds	274,608	26,658	297,281	28,407
Coal:				
Anthracite thousand short tons	851	11,488	766	9,755
Bituminous do	50,181	465,314	49,302	457,899
Briquets do	89	1,149	120	2,182
Coke do	834	16,307	1,102	28,415
Petroleum:				
Crude thousand barrels	1,004	2,841	1,478	4,130
Gasoline do	3,820	24,371	2,369	14,274
Jet do	154	621	118	548
Naphtha do	1,545	16,842	1,982	22,232
Kerosine do	166	1,275	249	2,214
Distillate oil do	5,042	17,576	6,251	18,407
Residual oil do	[r]15,052	[r]34,141	13,275	29,102
Lubricating oil do	14,191	165,135	14,767	189,648
Asphalt do	[r]356	[r]3,029	434	3,705
Liquefied petroleum gases do	7,511	27,231	8,171	30,007
Wax do	[r]1,650	[r]30,110	1,877	36,028
Coke do	13,263	42,027	16,235	49,604
Petrochemical feedstocks do	1,944	11,700	2,698	14,894
Miscellaneous do	1,333	20,086	1,357	37,074

[r] Revised. NA Not available.

Table 9.—U.S. imports for consumption of principal minerals and products

Mineral	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Metals:				
Aluminum:				
Metal……short tons..	[r] 525,021	[r] $217,244	520,938	$216,977
Scrap……do….	27,029	8,482	33,616	10,782
Plates, sheets, bars, etc……do….	[r] 68,235	[r] 39,833	124,106	76,887
Antimony:				
Ore (antimony content)……do….	10,360	4,310	12,460	4,754
Needle or liquated……do….	23	18	63	42
Metal……do….	2,650	2,112	2,767	2,031
Oxide……do….	2,173	1,798	5,383	3,998
Arsenic: White (As_2O_3 content)……do….	15,525	1,271	18,675	1,477
Bauxite: Crude……thousand long tons..	[r] 11,199	142,989	11,529	147,335
Beryllium ore……short tons..	7,791	2,056	2,147	581
Bismuth (general imports)……pounds..	1,378,147	3,506	1,681,472	6,243
Boron carbide……do….	13,801	48	183,321	513
Cadmium:				
Metal……thousand pounds..	2,121	[r] 4,668	3,358	6,813
Flue dust (cadmium content)……do….	1,531	1,521	1,181	989
Calcium:				
Metal……pounds..	28,219	28	85,941	72
Chloride……short tons..	3,658	100	2,477	76
Chromate:				
Ore and concentrate (Cr_2O_3 content) thousand short tons..	685	25,239	841	30,379
Ferrochrome (chromium content)……do….	[r] 36	13,236	66	22,076
Metal……do….	1	1,522	2	3,739
Cobalt:				
Metal……thousand pounds..	14,846	23,132	17,871	27,734
Oxide (gross weight)……do….	947	1,011	1,279	1,411
Salts and compounds (gross weight)..do….	[r] 186	[r] 179	150	81
Columbium ore……do….	4,892	2,712	9,278	5,678
Copper: (copper content)				
Ore and concentrates……short tons..	1,441	777	6,843	4,118
Regulus, black, coarse……do….	83	72	117	85
Unrefined, black, blister……do….	75,122	45,262	337,955	272,996
Refined in ingots, etc……do….	103,269	70,937	77,783	63,654
Old and scrap……do….	[r] 17,667	[r] 7,203	23,908	24,662
Old and clippings……do….	1,490	1,151	5,056	5,846
Ferroalloys: Ferrosilicon (silicon content)..do….	4,558	1,606	13,133	4,610
Gold:				
Ore and base bullion……troy ounces..	292,167	10,199	333,119	11,698
Bullion……do….	2,613,161	91,469	866,926	30,306
Iron ore……thousand long tons..	45,103	443,788	46,259	462,354
Iron and steel:				
Pig iron……short tons..	882,095	38,438	1,186,739	45,914
Iron and steel products (major):				
Iron products……do….	45,038	15,013	36,452	7,776
Steel products……do….	[r] 10,594,576	[r] 1,228,370	11,007,018	1,273,730
Scrap……do….	193,482	6,999	390,205	7,672
Tinplate……do….	18,988	451	16,450	535
Lead:				
Ore, flue dust, matte (lead content)…do….	128,933	26,923	63,850	13,871
Base bullion (lead content)……do….	566	380	1,928	575
Pigs and bars (lead content)……do….	[r] 223,461	[r] 60,924	285,788	75,312
Reclaimed, scrap, etc. (lead content)..do….	3,612	793	3,956	886
Sheets, pipe, and shot……do….	880	273	919	283
Babbitt metal and solder (lead content) do….	986	8,129	731	3,203
Manufactures……do….	512	329	1,087	277
Magnesium:				
Metallic and scrap……do….	2,551	1,101	3,265	1,613
Alloys (magnesium content)……do….	327	760	689	1,656
Sheets, tubing, ribbons, wire and other forms (magnesium content)……do….	103	128	5	36
Manganese:				
Ore (35 percent or more manganese) manganese content)……do….	1,825,709	109,747	1,261,490	77,047
Ferromanganese (manganese content).do….	198,118	31,486	194,563	32,261
Mercury:				
Compounds……pounds..	47,808	186	16,340	94
Metal……76-pound flasks..	16,238	7,614	31,364	12,322
Minor metals: Selenium and salts……pounds..	250,912	1,244	285,776	1,834
Nickel:				
Pigs, ingots, shot, cathodes……short tons..	[r] 132,559	[r] 202,822	112,836	170,726
Scrap……do….	[r] 1,163	[r] 873	941	709
Oxide……do….	[r] 13,600	[r] 14,990	7,711	7,967

See footnotes at end of table.

Table 9.—U.S. imports for consumption of principal minerals and products—Continued

Mineral	1965 Quantity	1965 Value (thousands)	1966 Quantity	1966 Value (thousands)
Metals—Continued				
Platinum group:				
Unrefined materials:				
Grains and nuggets, including crude, dust and residues troy ounces	[r] 57,696	[r] 6,112	86,700	9,498
Sponge and scrap do	4	(1)	851	86
Osmiridium do	3,988	228	4,910	440
Refined metal:				
Platinum do	[r] 317,000	[r] 32,448	272,482	31,655
Palladium do	734,881	22,381	985,137	28,010
Iridium do	10,839	943	8,161	1,130
Osmium do	269	88	751	292
Rhodium do	39,768	6,762	65,861	11,984
Ruthenium do	8,198	307	10,164	385
Radium:				
Radioactive substitutes	NA	2,816	NA	2,104
Rare earths: Ferrocerium and other cerium alloys pounds	7,916	36	13,903	65
Silver:				
Ore and base bullion thousand troy ounces	47,831	56,065	35,992	43,601
Bullion do	6,878	6,838	27,040	32,586
Tantalum: Ore thousand pounds	1,196	2,150	2,143	4,782
Tin:				
Ore (tin content) long tons	4,326	13,228	4,372	12,467
Blocks, pigs, grains, etc do	40,816	159,506	41,699	152,761
Dross, skimmings, scrap, residues, and tin alloys, n.s.p.f long tons	502	883	108	124
Tinfoil, powder, flitters, etc	NA	261	NA	251
Titanium:				
Ilmenite short tons	[r] 166,315	[r] 4,771	186,539	6,698
Rutile do	[r] 151,748	[r] 10,114	151,482	8,494
Metal pounds	6,497,792	6,118	11,959,375	10,854
Ferrotitanium do	33,919	12	60,461	21
Compounds and mixtures do	99,503,628	18,259	96,465,373	17,495
Tungsten: (tungsten content)				
Ore and concentrate thousand pounds	[r] 3,604	3,886	4,298	6,859
Metal do	[r] 62	[r] 186	335	666
Ferrotungsten do	386	404	379	696
Other alloys pounds	43,890	117	75,227	227
Zinc:				
Ore (zinc content) short tons	402,936	53,829	396,375	51,696
Blocks, pigs, and slabs do	[r] 153,957	[r] 42,605	280,307	75,624
Sheets do	1,381	453	1,708	670
Old, dross, and skimmings do	4,701	1,004	6,563	1,295
Dust do	244	57	1,286	398
Manufactures	NA	[r] 481	NA	545
Zirconium: Ore, including zirconium sand short tons	58,873	1,690	57,976	1,652
Nonmetals:				
Abrasives: Diamonds (industrial) thousand carats	[r] 12,992	[r] 55,678	18,569	69,110
Asbestos short tons	719,559	70,457	726,459	73,100
Barite:				
Crude and ground do	712,713	[r] 5,563	699,045	5,766
Witherite do	[r] 2,569	112	2,138	100
Chemicals do	[r] 4,205	565	6,552	927
Cement thousand 376-pounds barrels	5,505	13,523	7,066	17,846
Clays:				
Raw short tons	93,045	1,970	132,336	2,644
Manufactured do	4,826	168	6,359	238
Cryolite do	24,011	2,009	31,655	3,199
Feldspar: Crude long tons	16	2	-----	-----
Fluorspar short tons	816,546	19,958	878,546	21,968
Gem stones:				
Diamonds thousand carats	3,160	307,285	3,485	373,776
Emeralds do	190	5,397	220	6,025
Other	NA	[r] 41,167	NA	46,937
Graphite short tons	58,056	2,387	56,748	2,545
Gypsum:				
Crude, ground, calcined thousand short tons	5,912	11,913	5,481	15,852
Manufactures	NA	1,415	NA	1,429
Iodine, crude thousand pounds	2,847	2,476	7,133	5,934
Kyanite short tons	4,047	167	3,405	141

See footnotes at end of table.

Table 9.—U.S. imports for consumption of principal minerals and products—Continued

Mineral	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Nonmetals—Continued				
Lime:				
Hydrated ____ short tons__	532	10	203	5
Other ____ do____	215,816	2,590	151,703	1,772
Dead-burned dolomite [1] ____ do____	59,519	2,385	43,637	2,038
Magnesium:				
Magnesite ____ do____	[r] 139,172	[r] 7,192	186,200	10,941
Compounds ____ do____	12,008	546	11,864	542
Mica:				
Uncut sheet and punch ____ thousand pounds__	2,116	2,142	3,247	3,998
Scrap ____ do____	[r] 3,043	71	2,642	71
Manufactures ____ do____	[r] 9,942	[r] 6,541	7,535	6,670
Mineral-earth pigments: Iron oxide pigments:				
Natural ____ short tons__	2,978	155	3,662	200
Synthetic ____ do____	10,071	1,748	15,234	2,626
Ocher, crude and refined ____ do____	186	14	146	8
Siennas, crude and refined ____ do____	1,025	105	1,192	145
Umber, crude and refined ____ do____	3,195	118	3,762	135
Vandyke brown ____ do____	296	25	554	49
Nitrogen compounds (major), including urea thousand short tons__	1,512	71,743	1,561	75,974
Phosphate, crude ____ do____	148	2,980	178	4,256
Phosphatic fertilizers ____ do____	58	3,139	67	3,740
Pigments and salts:				
Lead pigments and compounds __ short tons__	24,571	6,183	30,497	7,353
Zinc pigments and compounds ____ do____	17,731	3,482	18,649	3,633
Potash ____ do____	1,866,750	52,675	2,539,112	71,943
Pumice:				
Crude or unmanufactured ____ do____	[r] 9,956	99	9,393	91
Wholly or partly manufactured ____ do____	180,768	509	273,338	728
Manufactures, n.s.p.f. ____	NA	27	NA	25
Quartz crystal (Brazillian pebble) ____ pounds__	1,181,753	1,083	1,470,341	896
Salt ____ thousand short tons__	2,410	6,505	2,479	6,464
Sand and gravel:				
Glass sand ____ do____	11	39	18	95
Other sand and gravel ____ do____	678	840	631	811
Sodium sulfate ____ do____	273	4,763	237	3,981
Stone and whiting ____	NA	20,414	NA	20,739
Strontium: Mineral ____ short tons__	9,741	221	11,517	267
Sulfur and pyrites:				
Sulfur:				
Ores and other forms, n.e.s thousand long tons__	[r] 1,486	[r] 27,298	1,514	33,525
Pyrites ____ do____	14	76	16	84
Talc: Unmanufactured ____ short tons__	21,022	[r] 867	21,908	834
Mineral fuels:				
Carbon black:				
Acetylene ____ pounds__	6,359,080	1,094	7,058,926	1,185
Gas black and carbon black ____ do____	[r] 186,068	36	385,381	61
Coal:				
Bituminous, slack, culm, and lignite short tons__	184,399	1,564	177,672	1,654
Briquets ____ do____	12,621	205	10,856	163
Coke ____ do____	89,620	1,379	95,761	1,790
Peat:				
Fertilizer grade ____ do____	271,466	11,748	289,823	11,416
Poultry and stable grade ____ do____	3,996	220	4,020	199
Petroleum ____ thousand barrels__	[r] 900,772	[r] 2,148,595	939,162	2,206,606

[r] Revised.
NA Not available.
[1] Dead-burned basic refractory material consisting chiefly of magnesia and lime.

Table 10.—Comparison of world and United States production of principal metals and minerals

Mineral	1965			1966[p]		
	World	United States		World	United States	
	Thousand short tons (unless otherwise stated)		Percent of world	Thousand short tons (unless otherwise stated)		Percent of world
Mineral fuels:						
Carbon black thousand pounds	NA	2,353,776	NA	NA	2,571,552	NA
Coal:						
Bituminous	[r]2,059,588	509,045	25	2,106,089	530,001	25
Lignite	[r]815,720	3,043	(1)	819,636	3,881	(1)
Pennsylvania anthracite	[r]213,400	14,866	[r]7	209,200	12,941	6
Coke (excluding breeze):						
Gashouse[2]	[r]45,150	149	(1)	43,340	168	(1)
Oven and beehive	[r]340,088	66,854	20	338,980	67,402	20
Fuel briquets and packaged fuel	[r]127,300	369	(1)	124,500	340	(1)
Natural gas (marketable) million cubic feet	NA	16,039,753	NA	NA	17,116,795	NA
Peat	[r]189,400	[3]604	(1)	188,800	611	(1)
Petroleum (crude) thousand barrels	[r]11,058,427	2,848,514	26	12,007,134	3,027,763	25
Nonmetals:						
Asbestos	[r]3,140	118	[r]4	3,350	126	4
Barite	[r]3,860	846	22	4,070	1,007	25
Cement[4] thousand barrels	[r]2,544,173	[r]388,847	15	2,722,280	401,895	15
China clay	NA	3,604	NA	NA	4,385	NA
Corundum	11	-----	---	11	-----	---
Diamonds thousand carats	[r]35,493	-----	---	37,451	-----	---
Diatomite	[r]1,850	580	[r]31	1,845	580	31
Feldspar thousand long tons	[r]1,930	625	[r]32	2,010	686	34
Fluorspar	[r]3,110	241	8	3,280	253	8
Graphite	[r]680	W	W	545	W	W
Gypsum	[r]53,000	[r]10,033	19	[r]53,000	9,647	18
Lime (sold or used by producers)	NA	16,794	NA	NA	18,057	NA
Magnesite	[r]10,425	W	W	10,385	W	W
Mica (including scrap) thousand pounds	435,000	241,226	55	415,000	226,268	55
Nitrogen, agricultural[4] [5]	[r]18,500	[r]4,922	27	21,300	5,689	27
Phosphate rock thousand long tons	[r]85,700	[r]29,436	[r]34	98,440	39,050	40
Potash (K_2O equivalent)	[r]15,100	3,140	21	16,200	3,320	20
Pumice[6]	[r]16,240	[r]3,372	21	16,410	3,234	20
Pyrites thousand long tons	21,100	875	4	21,150	873	4
Salt[4]	[r]119,450	34,695	29	122,810	36,474	30
Strontium[6]	[r]16	-----	---	13	-----	---
Sulfur, elemental thousand long tons	[r]15,270	7,332	48	16,350	8,239	50
Talc, pyrophyllite, and soapstone	[r]3,920	863	22	4,040	895	22
Vermiculite[6]	[r]380	249	[r]66	382	262	69
Metals, mine basis:						
Antimony (content of ore and concentrate short tons	[r]66,700	845	1	65,800	927	1
Arsenic, white[6]	[r]66	W	W	66	W	W
Bauxite thousand long tons	[r]36,970	1,654	[r]4	38,805	1,796	5
Beryllium concentrate short tons	[r][7]4,900	W	W	[7]3,600	W	W
Bismuth thousand pounds	[r]8,600	W	W	8,600	W	W
Cadmium thousand pounds	[r]26,100	9,671	[r]27	26,600	10,460	39
Chromite	[r]5,410	-----	---	5,450	-----	---
Cobalt (contained) short tons	[r]19,100	W	W	22,100	W	W
Columbium-tantalum concentrates[6] thousand pounds	[r]14,545	-----	---	27,065	-----	---
Copper (content of ore and concentrate)	[r]5,590	1,352	24	5,855	1,429	24
Gold thousand troy ounces	[r]46,700	1,705	4	47,100	1,803	4
Iron ore thousand long tons	[r]608,202	[r]87,439	[r]14	618,609	90,147	15
Lead (content of ore and concentrate)	[r]2,990	301	10	3,155	327	10
Manganese ore (35 percent or more Mn)	[r]19,435	29	(1)	20,033	14	(1)
Mercury thousand 76-pound flasks	[r]276	20	7	266	22	8
Molybdenum (content of ore and concentrate) thousand pounds	[r]115,200	77,372	67	143,800	90,532	63

See footnotes at end of table.

Table 10.—Comparison of world and United States production of principal metals and minerals—Continued

Mineral	1965			1966 p		
	World	United States		World	United States	
	Thousand short tons (unless otherwise stated)		Percent of world	Thousand short tons (unless otherwise stated)		Percent of world
Metals, mine basis—Continued						
Nickel (content of ore and concentrate)	r 481	14	3	475	13	3
Platinum groups (Pt, Pd, etc.) thousand troy ounces	r 2,970	35	1	2,950	51	2
Silver thousand troy ounces	r 254,100	39,806	16	253,000	43,669	17
Tin (content of ore and concentrate) long tons	r 199,800	47	(1)	208,000	97	(1)
Titanium concentrates:						
Ilmenite [6]	r 2,723	969	36	2,889	965	33
Rutile [6]	243	W	W	277	W	W
Tungsten concentrate (60 percent WO_3) short tons	r 63,100	7,949	13	65,300	8,912	14
Vanadium (content of ore and concentrate) [6] short tons	r 9,083	5,226	r 58	9,300	5,166	56
Zinc (content of ore and concentrate)	r 4,695	611	13	4,920	573	12
Metals, smelter basis:						
Aluminum	7,415	2,754	37	8,025	2,968	37
Copper	r 6,100	1,434	24	6,440	1,581	25
Iron, pig (including ferroalloys)	r 369,495	91,016	25	382,167	94,000	25
Lead	2,905	418	14	2,995	441	15
Magnesium short tons	r 178,300	81,361	r 46	175,200	79,794	46
Selenium [6] thousand pounds	r 1,789	540	r 30	1,951	620	32
Steel ingots and castings	r 506,850	131,462	26	524,040	134,073	26
Tellurium [6] thousand pounds	r 321	195	r 61	340	199	59
Tin long tons	r 196,800	r [8] 4,326	2	201,200	[8] 4,372	2
Uranium oxide (U_3O_8) [6] short tons	r 21,100	10,442	r 49	19,700	9,483	48
Zinc	r 4,280	994	23	4,405	1,025	23

p Preliminary. r Revised. NA Not available. W Withheld to avoid disclosing individual company confidential data.

[1] Less than ½ unit.

[2] Includes low- and medium-temperature and gashouse coke.

[3] Agricultural use only.

[4] Including Puerto Rico.

[5] Year ended June 30 of year stated (United Nations).

[6] World total exclusive of U.S.S.R.

[7] Not including U.S. output which was very small, but withheld to avoid disclosing individual company confidential data.

[8] U.S. imports of tin concentrates (tin content).

Employment and Injuries in the Metal and Nonmetal Industries

Table 1.—Employment and injury experience at metal mines in the United States, by industry groups

Industry and year	Men working daily	Average active mine days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Non-fatal	Frequency	Severity
Copper:								
1962	15,629	280	4,377	35,017	15	908	26.36	4,598
1963	14,547	297	4,326	34,611	14	908	26.64	4,199
1964	15,820	288	4,549	36,323	13	1,034	28.82	3,468
1965	16,880	298	5,033	40,285	19	896	22.71	4,348
1966 [p]	16,200	313	5,068	40,560	22	895	22.61	4,731
Gold-silver (lode-placer):								
1962	4,361	215	937	7,553	8	268	36.54	7,945
1963	4,823	210	1,015	8,162	6	265	33.20	6,405
1964	4,312	228	983	7,885	4	208	26.89	[r] 8,956
1965	4,074	241	982	7,896	4	264	33.94	5,970
1966 [p]	4,000	236	945	7,570	10	275	37.65	9,213
ron:								
1962	16,165	234	3,776	30,481	9	453	15.16	2,799
1963	13,353	251	3,357	27,079	10	402	15.21	3,339
1964	14,189	258	3,659	29,448	12	452	15.76	3,309
1965	14,439	273	3,942	31,752	5	510	16.22	1,727
1966 [p]	14,600	276	4,033	32,425	13	565	17.83	3,428
Lead-zinc:								
1962	7,150	243	1,735	13,877	9	935	68.03	7,713
1963	7,443	234	1,738	13,901	6	961	69.56	5,076
1964	8,158	260	2,118	16,969	19	1,038	62.29	10,113
1965	8,805	259	2,279	18,240	17	1,089	60.64	8,128
1966 [p]	8,600	258	2,215	17,765	15	1,090	62.20	8,290
Uranium:								
1962	5,967	231	1,379	11,175	13	420	38.75	9,059
1963	5,086	199	1,011	8,163	4	348	43.12	4,531
1964	4,772	203	969	7,833	4	349	45.07	6,401
1965	3,654	211	771	6,205	10	282	47.06	12,144
1966 [p]	4,000	199	797	6,450	7	215	34.42	8,196
Miscellaneous:								
1962	3,015	239	720	5,764	7	279	49.62	9,279
1963	2,592	251	650	5,196	1	191	36.95	2,618
1964	2,514	286	718	5,750	3	185	[r] 32.69	4,755
1965	3,568	276	987	7,898	3	251	32.16	3,467
1966 [p]	3,800	273	1,037	8,310	7	310	38.15	6,950
Total: [1]								
1962	52,287	247	12,924	103,867	61	3,263	32.00	5,469
1963	47,844	253	12,096	97,111	41	3,075	32.09	4,212
1964	49,765	261	12,996	104,204	55	3,266	31.87	4,833
1965	51,420	272	13,994	112,277	58	3,292	29.84	4,704
1966 [p]	51,200	275	14,095	113,075	74	3,355	30.33	5,576

[p] Preliminary. [r] Revised.

[1] Data may not add to totals shown because of rounding.

Table 2.—Employment and injury experience at metal mills in the United States, by industry groups

Industry and year	Men working daily	Average active mill days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
Copper:								
1962	5,947	325	1,935	15,482	7	127	8.66	2,940
1963	4,839	320	1,550	12,402	1	91	7.42	1,545
1964	5,062	316	1,600	12,800	1	89	7.03	888
1965	5,190	335	1,737	13,897	--	90	6.48	364
1966 [p]	5,400	340	1,838	14,695	--	75	5.10	396
Gold-silver (lode-placer):								
1962	347	251	87	702	--	30	42.74	1,845
1963	335	263	88	708	--	25	35.31	768
1964	318	[r] 282	90	716	--	13	[r] 18.14	[r] 861
1965	388	258	100	798	--	24	30.09	568
1966 [p]	400	290	116	930	1	35	38.71	8,538
Iron:								
1962	4,868	283	1,376	11,130	3	91	8.45	2,167
1963	4,856	287	1,392	11.189	--	65	5.81	288
1964	5,534	293	1,622	12,944	1	103	8.03	719
1965	6,334	288	1,823	14,651	1	121	8.33	718
1966 [p]	6,300	300	1,888	15,140	3	115	7.79	1,610
Lead-zinc:								
1962	1,743	254	442	3,539	--	55	15.54	658
1963	1,356	229	310	2,484	2	65	26.97	7,098
1964	1,285	267	343	2,731	1	46	17.21	2,888
1965	1,271	278	353	2,825	2	76	27.61	5,061
1966 [p]	1,500	259	389	3,105	--	70	22.54	2,306
Uranium:								
1962	2,219	302	670	5,406	2	87	16.46	2,842
1963	1,796	275	494	3,988	--	75	18.81	404
1964	1,441	300	432	3,560	1	59	16.85	2,142
1965	1,248	313	391	3,112	--	71	22.81	1,718
1966 [p]	1,400	304	425	3,420	--	70	20.47	1,282
Miscellaneous:								
1962	4,859	332	1,613	12,904	2	92	7.28	1,227
1963	4,834	339	1,638	13,103	2	89	6.94	1,134
1964	[r] 4,735	[r] 329	[r] 1,560	[r] 12,492	1	[r] 96	[r] 7.77	[r] 878
1965	5,053	331	1,671	13,373	--	90	6.73	221
1966 [p]	5,400	329	1,775	14,350	2	140	9.90	1,466
Total: [1]								
1962	19,983	306	6,123	49,163	14	482	10.09	2,124
1963	18,016	304	5,472	43,874	5	410	9.46	1,298
1964	[r] 18,375	[r] 307	[r] 5,646	[r] 45,243	5	[r] 406	[r] 9.08	[r] 1,045
1965	19,484	312	6,074	48,657	3	472	9.76	798
1966 [p]	20,400	315	6,431	51,640	6	500	9.80	1,369

[p] Preliminary. [r] Revised.

[1] Data may not add to totals shown because of rounding.

able 3.—Employment and injury experience at primary nonferrous reduction and refinery plants in the United States, by industry group

Industry and year	Men working daily	Average active smelter days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
opper:								
1962	10,954	328	3,590	28,697	5	360	12.72	1,563
1963	10,289	334	3,443	27,579	2	339	12.36	1,020
1964	10,495	323	3,385	27,106	1	355	13.13	751
1965	10,875	334	3,635	29,060	3	314	10.91	1,257
1966 [p]	10,800	332	3,587	28,580	5	395	14.00	1,660
ead:								
1962	2,493	289	720	5,760	2	82	14.58	2,443
1963	2,581	277	715	5,720	1	61	10.84	2,057
1964	2,327	321	746	6,002	1	67	11.33	2,353
1965	2,326	301	701	5,608	1	74	13.37	2,897
1966 [p]	2,500	318	795	6,360	3	105	16.98	3,392
nc:								
1962	6,588	328	2,158	17,246	--	277	16.06	399
1963	6,108	346	2,114	16,909	3	261	15.61	1,498
1964	6,848	334	2,284	[r] 18,064	3	314	17.55	1,622
1965	7,128	340	2,426	18,971	4	284	15.18	1,897
1966 [p]	7,100	329	2,337	18,430	1	340	18.50	895
uminum:								
1962	13,184	336	4,433	35,453	3	269	7.67	1,067
1963	14,036	358	5,022	40,179	--	269	6.70	389
1964	15,794	334	5,278	42,917	3	242	5.71	790
1965	19,582	343	6,712	52,048	3	278	5.40	629
1966 [p]	20,300	350	7,112	56,745	--	240	4.23	343
iscellaneous:								
1962	1,605	297	477	3,819	--	22	5.76	199
1963	1,428	312	446	3,633	1	27	7.71	1,888
1964	1,492	312	465	3,719	--	21	5.65	155
1965	1,716	283	485	3,880	1	21	5.67	1,795
1966 [p]	1,900	357	679	5,430	--	30	5.52	780
otal: [1]								
1962	34,824	327	11,378	90,975	10	1,010	11.21	1,147
1963	34,442	341	11,740	94,020	7	957	10.25	933
1964	36,956	329	12,158	97,807	8	999	10.30	1,005
1965	41,627	335	13,959	109,567	12	971	8.97	1,173
1966 [p]	42,600	341	14,509	115,545	9	1,110	9.68	945

[p] Preliminary. [r] Revised.

[1] Data may not add to totals shown because of rounding.

Table 4.—Employment and injury experience at nonmetal (except stone) mines in the United States, by industry groups

Industry and year	Men working daily	Average active mine days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
Clay-shale:								
1962	5,383	185	995	8,031	1	230	28.76	2,464
1963	4,651	199	927	7,490	1	192	25.77	1,659
1964	5,450	212	1,156	9,366	7	254	27.87	6,169
1965	5,544	220	1,217	9,877	4	291	29.87	4,034
1966 p	5,100	223	1,136	9,275	2	275	29.87	2,288
Gypsum:								
1962	1,105	251	277	2,230	--	19	8.52	2,376
1963	992	256	254	2,051	1	23	11.70	3,841
1964	1,019	255	260	2,091	--	15	7.17	302
1965	970	255	247	2,001	2	19	10.49	6,439
1966 p	900	258	232	1,885	--	20	10.61	3,323
Phosphate rock:								
1962	1,974	257	507	4,122	2	70	17.47	4,382
1963	2,012	279	561	4,536	3	72	16.53	5,088
1964	2,124	296	629	5,063	2	92	18.57	3,410
1965	2,507	294	738	5,962	2	122	20.80	2,460
1966 p	3,000	296	888	7,220	5	155	22.16	4,723
Potash:								
1962	1,602	306	491	3,925	5	181	47.38	8,846
1963	1,723	353	608	4,851	19	206	46.38	24,481
1964	2,022	333	673	5,384	4	171	32.50	6,138
1965	1,753	357	625	5,004	1	192	38.57	4,334
1966 p	1,900	352	668	5,505	4	205	37.97	5,672
Salt:								
1962	1,625	267	434	3,635	2	164	45.67	4,289
1963	1,532	270	414	3,443	3	113	33.69	6,214
1964	1,551	273	423	3,487	1	122	35.27	4,885
1965	1,638	279	457	3,745	3	97	26.70	7,103
1966 p	1,700	278	473	3,870	2	90	23.77	4,625
Sulfur:								
1962	1,468	353	518	4,407	--	72	16.34	748
1963	1,366	361	493	4,247	1	61	14.60	1,816
1964	1,318	363	476	4,106	--	53	12.91	418
1965	1,371	363	497	4,466	2	55	12.76	3,073
1966 p	1,400	365	512	4,590	--	50	10.89	1,958
Miscellaneous:								
1962	3,760	201	757	6,133	4	208	34.57	6,858
1963	3,294	223	733	5,921	3	190	32.60	4,117
1964	3,608	223	803	6,479	4	199	31.33	4,993
1965	3,431	242	831	6,706	7	213	32.81	9,127
1966 p	3,600	230	827	6,650	3	250	38.05	3,896
Total: [1]								
1962	16,917	235	3,979	32,484	14	944	29.49	4,275
1963	15,570	256	3,990	32,539	31	857	27.29	6,630
1964	17,087	259	4,420	35,977	18	906	25.68	4,389
1965	17,214	268	4,612	37,761	21	989	26.75	5,048
1966 p	17,700	268	4,736	38,995	16	1,045	27.21	3,734

p Preliminary.

[1] Data may not add to totals because of rounding.

Table 5.—Employment and injury experience at nonmetal (except stone) mills in the United States, by industry groups

Industry and year	Men working daily	Average active mill days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Non-fatal	Frequency	Severity
Clay-shale:								
1962	17,142	233	3,987	32,756	3	796	24.39	1,539
1963	15,746	250	3,942	31,762	--	881	27.74	836
1964	15,250	261	3,982	32,058	4	1,011	31.66	2,025
1965	14,136	264	3,738	30,116	5	890	29.72	2,047
1966 p	16,200	269	4,360	35,085	3	1,075	30.73	2,053
Gypsum:								
1962	1,690	257	434	3,517	--	21	5.97	289
1963	1,615	289	466	3,731	--	14	3.75	294
1964	1,589	278	442	3,467	--	20	5.77	1,804
1965 [1]	2,890	283	817	6,557	--	25	3.81	588
1966 p	2,500	273	682	5,445	1	20	3.86	1,754
Phosphate rock:								
1962	2,381	299	712	5,699	2	53	9.65	2,631
1963	2,297	310	712	5,714	1	29	5.25	1,260
1964	2,163	319	690	5,514	--	38	6.89	1,017
1965	2,476	312	773	6,198	4	54	9.36	5,194
1966 p	2,000	336	672	5,395	3	60	11.68	3,732
Potash:								
1962	712	305	217	1,737	--	58	33.39	716
1963	1,020	330	337	2,695	1	25	9.65	2,612
1964	1,003	332	333	2,666	1	45	17.25	2,644
1965	1,126	357	402	3,214	--	72	22.40	1,959
1966 p	1,000	365	371	2,965	--	45	15.18	2,028
Salt:								
1962	4,429	269	1,190	10,259	3	196	19.40	2,381
1963	4,539	301	1,368	10,999	--	182	16.55	369
1964	4,870	289	1,405	11,229	--	183	16.30	657
1965	3,909	284	1,109	8,967	--	154	17.17	867
1966 p	4,100	292	1,197	9,580	2	165	17.43	1,660
Sulfur:								
1962	34	265	9	69	--	--	--	--
1963	20	300	6	47	--	1	21.28	553
1964	11	273	3	21	--	--	--	--
1965	10	300	3	24	--	2	83.33	83
1966 p	--	--	--	--	--	--	--	--
Miscellaneous:								
1962	8,512	301	2,563	20,585	1	259	12.63	1,279
1963	8,495	309	2,621	20,996	--	344	16.38	514
1964	7,081	291	2,060	16,506	1	283	17.21	1,185
1965	6,668	296	1,976	15,898	1	286	18.05	1,840
1966 p	7,400	282	2,088	16,780	2	275	16.51	1,513
Total: [2]								
1962	34,900	261	9,112	74,621	9	1,383	18.65	1,587
1963	33,732	280	9,452	75,944	2	1,476	19.45	589
1964	31,967	279	8,914	71,461	6	1,580	22.19	1,550
1965	31,215	283	8,819	70,975	10	1,483	21.04	1,987
1966 p	33,200	282	9,370	75,260	11	1,640	21.94	1,980

p Preliminary.

[1] Includes mill data not reported in previous years.

[2] Data may not add to totals shown because of rounding.

Table 6.—Employment and injury experience at stone quarries and mills in the United States, by industry groups

Industry and year	Men working daily	Average days active	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
Cement: [1]								
1962	25,564	306	7,817	62,545	8	251	4.14	1,077
1963	24,956	309	7,715	61,727	7	306	5.07	950
1964	23,017	318	7,323	58,592	8	303	5.31	1,017
1965	22,947	319	7,322	58,563	10	331	5.82	1,399
1966 p	22,700	326	7,395	59,115	6	355	6.11	1,234
Granite:								
1962	8,239	229	1,886	15,870	7	425	27.22	5,052
1963	8,131	234	1,900	15,797	13	423	27.60	r 7,388
1964	8,743	236	2,065	17,076	6	466	27.64	3,753
1965	8,956	243	2,176	18,284	6	409	22.70	2,966
1966 p	8,800	240	2,109	17,625	2	490	27.91	3,017
Lime: [1]								
1962	7,690	289	2,222	17,847	5	312	17.76	2,216
1963	7,439	300	2,230	17,890	3	237	13.42	1,716
1964	r 6,956	r 304	r 2,117	r 17,026	5	r 296	r 17.68	r 2,310
1965	7,671	291	2,234	17,958	4	282	15.93	1,808
1966 p	8,000	297	2,376	19,050	7	365	19.53	3,452
Limestone:								
1962	32,931	229	7,538	64,570	33	1,415	22.43	4,830
1963	33,093	230	7,603	64,500	29	1,499	23.69	3,958
1964	31,660	236	7,482	63,476	34	1,424	22.97	4,468
1965	32,872	240	7,904	67,038	21	1,448	21.91	3,182
1966 p	31,900	242	7,724	65,850	30	1,610	24.91	4,248
Marble:								
1962	2,919	247	721	5,938	3	260	44.29	4,419
1963	2,792	254	710	5,763	1	168	29.33	3,454
1964	2,602	258	671	5,456	--	174	31.89	581
1965	2,534	249	631	5,165	2	181	35.43	3,303
1966 p	3,200	252	805	6,610	1	235	35.70	2,430
Sandstone:								
1962	5,867	219	1,282	10,802	3	267	25.00	3,444
1963	5,982	222	1,329	11,096	2	334	30.28	2,844
1964	5,427	221	1,197	9,779	4	282	r 29.24	3,180
1965	5,745	227	1,305	10,696	4	278	26.36	3,192
1966 p	6,000	241	1,446	11,930	3	370	31.27	2,611
Slate:								
1962	r 1,226	243	298	2,510	3	77	31.87	7,970
1963	1,270	264	335	2,719	--	103	37.88	1,047
1964	1,402	263	369	2,993	1	86	29.07	3,035
1965	1,232	262	322	2,630	--	84	31.93	723
1966 p	1,200	268	321	2,615	1	75	29.06	3,081
Traprock:								
1962	5,734	215	1,235	10,197	4	224	22.36	4,284
1963	6,254	216	1,351	11,146	2	319	28.80	2,014
1964	5,417	208	1,125	9,401	2	240	25.74	2,285
1965	5,530	213	1,180	9,855	1	215	21.92	1,166
1966 p	5,500	215	1,180	9,850	1	245	24.97	2,036
Miscellaneous:								
1962	2,071	190	393	3,173	1	68	21.75	3,865
1963	2,043	186	379	3,046	4	79	27.25	8,524
1964	2,635	199	525	4,200	1	96	23.10	1,799
1965	2,093	220	460	3,811	--	77	20.21	1,416
1966 p	2,000	223	445	3,615	1	90	25.17	2,241
Total: [2]								
1962	92,241	254	23,393	193,453	67	3,299	17.40	3,201
1963	91,960	256	23,553	193,685	61	3,468	18.22	2,913
1964	r 87,859	260	r 22,873	r 188,000	61	r 3,367	r 18.23	r 2,761
1965	89,580	263	23,535	194,000	48	3,305	17.28	2,330
1966 p	89,300	267	23,801	196,255	52	3,830	19.78	2,828

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p Preliminary. r Revised.

[1] Includes burning or calcinating and other mill operations.

[2] Data may not add to total shown because of rounding.

Table 7.—Employment and injury experience at sand and gravel plants in the United States

Year	Men working daily	Average active plant days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
1962	53,599	218	11,690	97,589	51	2,093	21.97	4,232
1963	52,804	216	11,400	95,786	33	1,894	20.12	3,095
1964	55,886	217	12,129	100,891	34	1,957	19.73	3,237
1965	54,159	221	11,947	100,083	40	1,870	19.08	3,214
1966 [p]	55,900	222	12,891	103,235	35	2,110	20.78	2,929

[p] Preliminary.

Table 8.—Employment and injury experience at slag (iron-blast-furnace) plants in the Unites States

Year	Men working daily	Average active plant days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
1962	1,462	248	362	2,927	---	29	9.91	417
1963	1,421	252	358	2,867	2	35	12.90	4,562
1964	1,472	264	389	3,107	1	53	17.38	3,895
1965	1,537	277	425	3,415	1	50	14.93	3,173
1966	1,472	277	407	3,332	---	44	13.20	709

Table 9.—Employment and injury experience at coal mines in the United States

Industry and year	Average men working daily [1]	Average active mine days [2]	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
Bituminous coal mines: [3]								
1962	147,276	196	28,863	228,267	263	9,783	44.01	9,712
1963	143,628	204	29,289	232,136	252	9,838	43.47	8,834
1964	137,617	212	29,200	232,037	218	9,728	42.86	8,312
1965	137,602	213	29,242	232,613	251	10,071	44.37	9,243
1966 [p]	136,900	207	28,351	226,970	227	9,675	43.63	8,646
Anthracite mines:								
1962	14,010	204	2,853	20,680	26	1,161	57.40	9,421
1963	13,498	216	2,912	21,048	32	1,295	63.05	12,367
1964	13,144	214	2,812	20,368	24	1,342	67.07	9,650
1965	11,132	204	2,271	16,375	8	1,067	65.65	4,936
1966	9,292	203	1,883	13,672	6	829	61.07	4,477
Total coal mines: [4]								
1962	161,286	197	31,716	248,946	289	10,944	45.12	9,688
1963	157,126	205	32,200	253,185	284	11,133	45.09	9,128
1964	150,761	212	32,012	252,405	242	11,070	44.82	8,420
1965	148,734	212	31,513	248,988	259	11,138	45.77	8,960
1966 [p]	146,192	207	30,234	240,642	233	10,504	44.62	8,409

[p] Preliminary.

[1] Average number of men at work each day mine was active. Because absenteeism and labor turnover were considered, this number is lower than number of men available for work, as measured by a count of names on payroll.

[2] Average in which operating time of each mine is weighted by average number of workers in mines.

[3] Includes lignite.

[4] Data may not add to total shown because of rounding.

Table 10.—Employment and injury experience at coke ovens in the United States[1]

Industry and year	Average men working daily[2]	Average active plant days[3]	Man-days worked (thousands)[4]	Man-hours worked (thousands)[4]	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
Slot ovens:								
1962	12,723	363	4,623	36,969	9	237	6.65	NA
1963	12,696	356	4,524	36,192	7	190	5.44	NA
1964	13,021	362	4,713	37,675	1	164	4.38	703
1965	14,003	357	4,998	39,984	7	192	4.98	1,816
1966	13,745	363	4,983	39,909	3	155	3.96	658
Beehive ovens:								
1962	357	191	68	533	2	15	31.89	NA
1963	347	209	73	567	---	23	40.57	NA
1964	426	220	94	743	---	40	53.83	5,457
1965	518	222	115	885	---	36	40.68	1,318
1966	471	236	111	821	---	36	43.82	1,048
All ovens:								
1962	13,080	359	4,691	37,502	11	252	7.01	NA
1963	13,043	352	4,596	36,759	7	213	5.98	NA
1964	13,447	357	4,807	38,418	1	204	5.34	795
1965	14,521	352	5,113	40,869	7	228	5.75	1,805
1966	14,216	358	5,094	40,730	3	191	4.76	666

NA Not available.

[1] All data are final.

[2] Average number of men at work each day oven was active. Because absenteeism and labor turnover are taken into consideration, this number is lower than the number of men available for work, as measured by a count of names on payroll.

[3] Average in which operating time of each plant is weighted by average number of workers in the plant.

[4] Man-days and man-hours of employment have been rounded to the nearest thousand and will not necessarily add to published totals.

Table 11.—Employment and injury experience of the oil industry (all activities) and the natural gas industry (excluding distribution activities) in the United States

Year	Average men working daily	Man-hours worked (thousands)	Number of injuries[1]		Injury rates per million man-hours	
			Fatal	Nonfatal	Frequency	Severity
1962	469,256	984,172	121	9,336	9.61	1,124
1963	461,021	974,877	93	9,125	9.46	1,040
1964	427,697	910,525	109	8,551	9.51	1,172
1965	436,935	931,645	78	8,963	9.70	934
1966	451,747	954,527	103	8,724	9.25	1,050

[1] Fatal and permanent total injuries combined for 1962. Permanent total injuries included with the nonfatal injury total thereafter.

Table 12.—Employment and injury experience in the peat industry in the United States

Year	Average men working daily	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
			Fatal	Nonfatal	Frequency	Severity
1962	683	977	---	19	19.46	300
1963	674	957	---	11	11.49	510
1964	781	1,122	---	24	21.39	1,851
1965	623	784	---	13	16.57	593
1966	523	804	---	10	12.44	373

Table 13.—Employment and injury experience at bituminous limestone, bituminous sandstone, and gilsonite mines and mills in the United States

Year	Average men working daily	Average active days	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
1962	358	279	100	800	---	13	16.25	146
1963	417	260	108	873	2	35	42.41	14,576
1964	369	256	94	762	2	30	41.97	16,701
1965 [r]	427	253	108	874	1	26	30.90	8,335
1966	368	270	99	806	1	28	35.98	7,872

[r] Revised.

METALS

Aluminum

Table 1.—Salient aluminum statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Primary production	1,817	2,118	2,313	2,553	2,754	2,968
Value	$909,104	$998,559	$1,039,812	$1,196,013	$1,337,795	$1,446,011
Price: Ingot, average cents per pound	26.6	23.9	22.6	23.7	24.5	24.5
Secondary recovery	336	462	506	552	641	693
Exports (crude and semi-crude)	186	259	292	349	315	330
Imports for consumption (crude and semi-crude)	261	377	466	453	620	679
Consumption, apparent	2,211	2,770	3,040	3,216	3,734	4,002
World: Production	4,438	5,580	6,070	6,735	7,415	8,025

Table 2.—Production and shipments of primary aluminum in the United States

(Short tons)

Quarter	1965		1966	
	Production	Shipments	Production	Shipments
First	655,934	671,752	719,833	719,816
Second	691,235	692,866	737,983	739,679
Third	688,599	697,039	738,554	739,430
Fourth	718,710	724,927	771,996	759,849
Total	2,754,478	2,786,584	2,968,366	2,958,274

Table 3.—Aluminum production capacity in the United States, by companies

(Short tons per year)

Company and plant	Capacity			
	Actual, end of 1966		Being built in 1966	Total, actual and under construction
	Prebaked	Soderberg		
Aluminum Company of America:				
Alcoa, Tenn	50,000	75,000	-----	125,000
Badin, N.C	50,000	-----	50,000	100,000
Evansville, Ind	175,000	-----	-----	175,000
Massena, N.Y	125,000	-----	-----	125,000
Point Comfort, Tex	-----	175,000	-----	175,000
Rockdale, Tex	175,000	-----	-----	175,000
Vancouver, Wash	100,000	-----	-----	100,000
Wenatchee, Wash	125,000	-----	50,000	175,000
Total	800,000	250,000	100,000	1,150,000
Reynolds Metals Co.:				
Arkadelphia, Ark	-----	68,000	-----	68,000
Jones Mills, Ark	122,000	-----	-----	122,000
Listerhill, Ala	-----	221,000	-----	221,000
Longview, Wash	-----	70,000	40,000	110,000
Massena, N.Y	-----	128,000	-----	128,000
San Patricio, Tex	-----	111,000	-----	111,000
Troutdale, Oreg	100,000	-----	40,000	140,000
Total	222,000	593,000	80,000	895,000
Kaiser Aluminum & Chemical Corp.:				
Chalmette, La	-----	257,000	-----	257,000
Mead, Wash	193,000	-----	-----	193,000
Ravenswood, W. Va	159,000	-----	-----	159,000
Tacoma, Wash	-----	41,000	40,000	81,000
Total	352,000	298,000	40,000	690,000
Anaconda Aluminum Co.: Columbia Falls, Mont	-----	100,000	35,000	135,000
Consolidated Aluminum Corp.: New Johnsonville, Tenn	106,000	-----	34,000	140,000
Harvey Aluminum, Inc.: The Dalles, Oreg	-----	87,000	-----	87,000
Ormet Corp.: Hannibal, Ohio	200,000	-----	40,000	240,000
Intalco Aluminum Corp.: Bellingham, Wash	152,000	-----	-----	152,000
Grand total	1,832,000	1,328,000	329,000	3,489,000

Table 4.—Aluminum recovered from scrap processed in the United States, by kind of scrap and form of recovery

(Short tons)

Kind of scrap	1965	1966	Form of recovery	1965	1966
New scrap:					
Aluminum-base	[1] 480,444	[2] 555,572	As metal	26,199	33,168
Copper-base	99	103	Aluminum alloys	597,464	642,928
Zinc-base	80	80	In brass and bronze	671	578
Magnesium-base	391	400	In zinc-base alloys	9,350	9,888
			In magnesium alloys	1,718	1,340
Total	481,014	556,155	In chemical compounds	5,316	5,129
Old scrap:			Total	640,718	693,031
Aluminum-base	[1] 159,012	[2] 135,845			
Copper-base	84	87			
Zinc-base	470	738			
Magnesium-base	138	206			
Total	159,704	136,876			
Grand total	640,718	693,031			

[1] Aluminum alloys recovered from aluminum-base scrap in 1965, including all constituents, were 509,428 tons from new scrap and 181,112 tons from old scrap and sweated pig, a total of 690,540 tons.

[2] Aluminum alloys recovered from aluminum-base scrap in 1966, including all constituents, were 587,490 tons from new scrap and 154,920 tons from old scrap and sweated pig, a total of 742,410 tons.

Table 5.—Stocks, receipts and consumption of new and old aluminum scrap and sweated pig in the United States in 1966 [1]

(Short tons)

Class of consumer and type of scrap	Stocks Jan. 1 [r]	Receipts	Consumption [2]	Stocks Dec. 31
Secondary smelters: [3]				
New scrap:				
Solids:				
Segregated low copper (Cu maximum, 0.4 percent)	3,125	66,976	66,386	3,715
Segregated high copper	775	10,573	10,721	627
Mixed low copper (Cu maximum, 0.4 percent)	1,691	60,163	59,164	2,690
High zinc (7000 series type)	311	5,406	5,423	294
Mixed clips	W	W	W	W
Borings and turnings:				
Low copper (Cu maximum, 0.4 percent)	W	W	W	W
Zinc, under 0.5 percent	W	W	W	W
Zinc, 0.5 to 1.0 percent	W	W	W	W
Other	W	W	W	W
Foil, dross, skimmings, and other	9,732	144,761	146,930	7,563
Total new scrap	22,234	483,845	483,113	22,966
Old scrap (solids)	8,388	104,338	106,701	6,025
Sweated pig (purchased for own use)	7,830	45,357	48,943	4,244
Total all classes	38,452	633,540	638,757	33,235
Primary producers, foundries, fabricators, and chemical plants:				
New scrap:				
Solids:				
Segregated low copper (Cu maximum, 0.4 percent)	7,335	137,427	141,092	3,670
Segregated high copper	156	16,156	16,146	166
Mixed low copper (Cu maximum, 0.4 percent)	1,220	13,423	13,643	1,000
High zinc (7000 series type)	292	5,368	5,522	138
Mixed clips	W	W	W	W
Borings and turnings:				
Low copper (Cu maximum, 0.4 percent)	W	W	W	W
Zinc, under 0.5 percent	W	W	W	W
Zinc, 0.5 to 1.0 percent	W	W	W	W
Other	W	W	W	W
Foil, dross, skimmings, and other	1,892	45,168	45,355	1,705
Total new scrap	11,395	226,559	231,055	6,899
Old scrap (solids)	236	3,783	3,533	486
Sweated pig (purchased for own use)	5,118	21,264	22,989	3,393
Total all classes	16,749	251,606	257,577	10,778
Total of all scrap consumed:				
New scrap:				
Solids:				
Segregated low copper (Cu maximum, 0.4 percent)	10,460	204,403	207,478	7,385
Segregated high copper	931	26,729	26,867	793
Mixed low copper (Cu maximum, 0.4 percent)	2,911	73,586	72,807	3,690
High zinc (7000 series type)	603	10,774	10,945	432
Mixed clips	1,655	52,880	53,325	1,210
Borings and turnings:				
Low copper (Cu maximum, 0.4 percent)	1,442	15,790	16,397	835
Zinc, under 0.5 percent	2,260	17,645	18,503	1,402
Zinc, 0.5 to 1.0 percent	1,743	51,506	49,897	3,352
Other	W	67,162	65,664	1,498
Foil, dross, skimmings, and other	11,624	189,929	192,285	9,268
Total new scrap	33,629	710,404	714,168	29,865
Old scrap (solids)	8,624	108,121	110,234	6,511
Sweated pig (purchased for own use)	12,948	66,621	71,932	7,637
Total all classes	55,201	885,146	896,334	44,013

[r] Revised.
W Withheld to avoid disclosing individual company confidential data.
[1] Includes imported scrap.
[2] Calculated.
[3] Excludes secondary smelters owned by primary aluminum companies.

Table 6.—Production and shipments of secondary aluminum alloys, by independent smelters

(Short tons) [1]

Alloy	1965		1966	
	Production [2]	Shipments [2]	Production [2]	Shipments [2]
Pure aluminum (Al minimum, 97.0 percent)	26,199	26,548	33,168	32,645
Aluminum-silicon:				
95/5 Al-Si, 356, etc. (maximum Cu 0.6 percent)	19,550	19,480	20,296	20,429
13 percent Si, 360, etc. (maximum Cu, 0.6 percent)	33,675	33,805	39,293	40,087
Aluminum-silicon (Cu, 0.6 to 2 percent)	9,263	9,448	8,196	8,485
No. 12 and variations	6,368	6,413	8,664	8,628
Aluminum-copper (maximum Si, 1.5 percent)	671	708	578	557
No. 319 and variations	50,199	49,157	54,630	55,470
Nos. 122, 138	910	750	395	609
AXS-679 and variations	248,767	240,806	267,756	275,003
Aluminum-silicon-copper-nickel	26,307	26,469	27,056	27,369
Deoxidizing and other destructive uses:				
Grades 1 and 2	12,091	11,529	12,398	12,476
Grades 3 and 4	17,715	17,670	15,648	14,944
Aluminum-base hardeners	10,024	10,373	7,932	8,272
Aluminum-magnesium	1,718	1,693	1,340	1,236
Aluminum-zinc	9,350	9,293	9,888	9,930
Miscellaneous	27,457	26,794	29,493	29,872
Total	500,264	490,936	536,731	546,012

[1] Gross weight, including copper, silicon, and other alloying elements. Secondary smelters used 13,260 and 18,368 tons of primary aluminum in 1965 and 1966, respectively, in producing secondary aluminum-base alloys.

[2] No allowance was made for consumption or receipts by producing plants.

Table 7.—Apparent consumption of aluminum in the United States

(Short tons)

Year	Primary sold or used by producers [1]	Imports (net) [2]	Recovery from old scrap [3]	Recovery from new scrap [3]	Total apparent consumption
1957–61 (average)	1,796,204	78,208	75,886	260,313	2,210,611
1962	2,184,876	123,839	128,520	333,236	2,770,471
1963	2,353,624	180,878	115,921	389,670	3,040,093
1964	2,554,898	109,901	123,677	428,014	3,216,490
1965	2,786,584	[r] 306,819	159,704	481,014	[r] 3,734,121
1966	2,958,274	350,400	136,876	556,155	4,001,705

[r] Revised.

[1] Includes shipments to the Government: 1957, 324,311 tons; 1958, 323,128 tons; 1959, 73,235 tons; 1960, 37,002 tons; 1961, 52,138 tons; 1962, 41,544 tons; 1963, 24,293 tons; 1964, 1965, and 1966, none.

[2] Crude and semicrude. Includes ingot equivalent of scrap imports and exports (weight multiplied by 0.9). Includes some shipments to Government stockpiles. Figures not available.

[3] Aluminum content.

Table 8.—Net shipments[1] of aluminum wrought and cast products[2] by producers

(Short tons)

	1965	1966[p]
Wrought products:		
Sheet, plate, and foil	1,507,181	1,685,013
Rolled and continuous cast rod and bar; wire	400,506	469,171
Extruded rod, bar, pipe, shapes, drawn and welded tubing and rolled structural shapes	859,351	957,986
Powder, flake, paste	29,400	55,694
Forgings	47,661	65,984
Total	2,844,099	3,233,848
Castings:		
Sand	134,326	145,886
Permanent mold	165,414	202,351
Die	401,758	463,013
Others	2,982	8,724
Total	704,480	819,974
Grand total	3,548,579	4,053,822

[p] Preliminary.

[1] Derived by subtracting the sum of producer's domestic receipts of each mill shape from the domestic industry's gross shipments of that shape.

[2] 1966 figures derived from a new probability sample.

Table 9.—Distribution of wrought products

(Percent)

	1965[r]	1966
Sheet, plate, and foil:		
Non-heat-treatable	40.3	38.9
Heat-treatable	5.7	6.6
Foil	7.0	6.6
Rolled and continuous cast rod and bar; wire:		
Rod, bar, etc	2.8	2.6
Bare wire, conductor and nonconductor	1.5	1.6
Bare cable (including steel-reinforced)	7.6	7.8
Wire and cable, insulated or covered	2.3	2.6
Extruded rod, bar, pipe, tube, and shapes:		
Alloys other than 2000 and 7000 series[1]	25.8	24.6
Alloys in 2000 and 7000 series	1.3	2.1
Tubing:		
Drawn	1.4	1.5
Welded, nonheat-treatable[2]	1.6	1.4
Powder, flake, and paste:		
Atomized	.6	1.3
Flaked	.1	.1
Paste	.3	.3
Forgings (including impact extrusions)	1.7	2.0
Total	100.0	100.0

[r] Revised.

[1] Includes a small amount of rolled structural shapes.

[2] Includes a small amount of heat-treatable welded tube.

Table 10.—Aluminum ingot and scrap in non-aluminum uses, in 1965

(Thousand pounds)

Use	Number of companies	Ingot, shot, granules		Scrap (gross weight)	Dross and skimmings (recoverable weight)	Total
		Primary metal	Secondary metal			
Steel deoxidizing	214	58,928	60,647	10,720	10,624	169,731
Reduction of ferro-alloys	10	4,146	1,027			
Steel alloying	41	9,373			-----	
Steel coating and similar processes	10	14,266		-----	-----	
Zinc-base alloys	69	[1] 21,857	[2] 18,571	8,093	-----	48,521
Copper-base alloys	43	2,995	517	541	-----	4,053
Anhydrous aluminum chloride and catalysts	16	14,885	7,880	11,561	9,022	72,943
Other [2]	45	27,765	1,830			
Total uses	[3] 365	154,215	90,472	30,915	19,646	295,248

[1] Partly estimated.

[2] Includes magnesium-base alloys, other non-aluminum-base alloys, explosives, pyrotechnics, exothermic applications, and miscellaneous chemicals.

[3] Detail will not add to total because some companies produce more than one class of material.

Source: U.S. Department of Commerce, BDSA.

Table 11.—U.S. exports of aluminum, by classes

Class	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Crude and semicrude:				
Ingots, slabs, and crude	203,642	$92,533	188,240	$90,012
Scrap	38,547	12,452	48,666	16,289
Plates, sheets, bars, etc	r 66,528	r 52,090	86,396	71,272
Casting and forgings	2,256	6,669	2,524	8,592
Semifabricated forms, n.e.c	r 3,645	r 6,046	3,939	6,352
Total	r 314,618	r 169,790	329,765	192,467
Manufactures:				
Foil and leaf	3,093	5,199	3,092	5,730
Powders and pastes (aluminum and aluminum bronze) (aluminum content)	629	887	908	1,235
Cooking, kitchen, and hospital utensils	1,130	2,932	1,164	3,001
Sash sections, frames (door and window)	r 3,529	6,546	4,134	8,132
Venetian blinds and parts	652	771	548	773
Wire and cable	r 7,992	r 5,582	8,364	6,451
Total	r 17,025	r 21,917	18,210	25,322
Grand total	r 331,643	r 191,707	347,975	217,789

r Revised.

Table 12.—U.S. exports of aluminum, by classes and countries

(Short tons)

Destination	1965			1966		
	Ingots, slabs, and crude	Plates, sheets, bars, etc.[1]	Scrap	Ingots, slabs, and crude	Plates, sheets, bars, etc.[1]	Scrap
North America:						
Canada	6,583	^{r}41,061	2,779	5,432	57,713	2,117
Jamaica	56	428	5	72	661	3
El Salvador	681	141	---	1,103	92	---
Mexico	370	^{r}3,083	21	90	804	21
Panama	674	361	---	738	240	---
Other	226	1,053	33	312	1,098	73
Total	8,590	^{r}46,127	2,838	7,747	60,608	2,214
South America:						
Argentina	14,655	13	---	6,487	54	---
Brazil	15,228	^{r}120	---	22,977	892	---
Chile	1,094	379	14	936	170	8
Colombia	4,169	^{r}183	6	3,888	150	5
Peru	531	208	1	1,013	149	1
Venezuela	2,347	^{r}580	15	2,361	1,251	7
Other	1,989	^{r}1,238	4	170	306	---
Total	40,013	^{r}2,721	40	37,832	2,972	21
Europe:						
Belgium-Luxembourg	5,042	^{r}288	35	1,032	427	146
France	25,060	^{r}278	22	20,673	520	46
Germany, West	28,029	^{r}1,402	14,334	15,681	2,148	15,255
Greece	1,257	^{r}68	11	251	31	2
Italy	6,062	^{r}3,061	3,327	3,858	3,905	10,405
Netherlands	9,286	^{r}1,161	5,884	4,405	1,961	1,582
Spain	4,303	591	---	1,369	308	435
Sweden	2,049	^{r}346	---	4,377	318	15
Switzerland	731	^{r}181	420	1,630	59	291
United Kingdom	44,454	^{r}1,448	5,767	27,622	1,269	177
Other	3,780	^{r}748	120	2,007	584	70
Total	130,053	^{r}9,572	29,920	82,905	11,530	28,424
Africa:						
Ghana	1,330	689	---	2,978	1,182	---
South Africa, Republic of	496	1,361	---	1,668	1,969	---
Other	1,122	^{r}1,150	---	320	1,871	---
Total	2,948	^{r}3,200	---	4,966	5,022	---
Asia:						
Hong Kong	1,501	131	29	2,939	122	5
India	2,549	^{r}5,713	---	8,282	5,449	---
Iran	991	52	---	2,412	154	---
Israel	1,321	^{r}408	---	1,738	110	---
Japan	4,561	^{r}1,013	5,325	23,472	1,621	16,850
Korea, South	3,448	^{r}12	---	3,726	226	140
Philippines	2,363	^{r}183	1	5,218	91	6
Viet-Nam, South	41	1,174	---	43	3,121	---
Other	3,183	^{r}1,290	328	6,057	847	908
Total	19,958	^{r}9,976	5,683	53,887	11,741	17,909
Oceania	2,080	^{r}833	66	903	986	98
Grand total	203,642	^{r}72,429	38,547	188,240	92,859	48,666
Value, thousands	$92,533	^{r}$64,805	$12,452	$90,012	$86,216	$16,239

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[1] Includes plates, sheets, bars, extrusions, forgings, and unclassified semifabricated forms.

Table 13.—U.S. imports for consumption of aluminum, by classes

Class	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Crude and semicrude:				
Metals and alloys, crude	[r] 525,021	[r] 217,244	520,938	$216,977
Circles and disks	7,238	4,515	12,724	8,071
Plates, sheets, etc., n.e.c	[r] 54,242	[r] 30,800	96,675	57,972
Rods and bars	6,755	4,518	14,707	10,844
Scrap	27,029	8,482	33,616	10,782
Total	[r] 620,285	[r] 265,559	678,660	304,646
Manufactures:				
Foil	4,090	5,223	2,968	4,505
Folding rules	(1)	6	(1)	1
Leaf (5.5 by 5.5 inches)	(2)	31	(2)	23
Flakes and powders	355	300	492	420
Wire	755	554	1,220	857
Tables, kitchen, and hospital utensils, etc	[r] 1,837	[r] 4,061	2,699	5,592
Other manufactures	(1)	[r] 2,878	(1)	3,299
Total	(1)	[r] 13,053	(1)	14,697
Grand total	(1)	[r] 278,612	(1)	319,843

[r] Revised.

[1] Quantity not recorded.

[2] 1965, 3,390,000 leaves and 55,315,007 square inches of leaf; 1966, 2,355,500 leaves and 36,163,566 square inches of leaf.

Table 14.—U.S. imports for consumption of aluminum, by classes and countries

(Short tons)

Country	1965			1966		
	Metal, and alloys, crude	Plates, sheets, bars, etc.[1]	Scrap	Metal, and alloys, crude	Plates, sheets, bars, etc.[1]	Scrap
North America:						
Canada	[r] 343,675	4,053	11,744	386,355	8,364	21,628
Other	10	11	57	-----	10	209
Total	[r] 343,685	4,064	11,801	386,355	8,374	21,837
South America	-----	5	2	-----	-----	936
Europe:						
Austria	-----	1,365	-----	-----	2,206	-----
Belgium-Luxembourg	-----	[r] 31,569	304	-----	46,795	-----
Denmark	200	24	1,058	-----	-----	469
France	33,724	6,675	-----	10,184	10,944	-----
Germany, West	102	1,596	316	318	5,325	121
Greece	-----	111	-----	6,779	24	-----
Italy	37	8,255	94	(2)	12,695	-----
Norway	[r] 91,228	262	-----	78,721	2,019	-----
Spain	385	1,250	-----	-----	1,011	7
Sweden	-----	347	268	1,000	415	136
Switzerland	6	150	-----	1,017	266	-----
United Kingdom	5,998	969	2,036	1,956	4,720	5,526
Yugoslavia	-----	2,809	-----	-----	5,309	-----
Other	-----	[r] 326	3,988	17	162	3,489
Total	[r] 131,680	[r] 55,708	8,064	99,992	91,891	9,748
Africa	14,071	1	19	18,407	359	-----
Asia:						
Japan	24,267	[r] 8,305	6,867	14,758	19,933	978
Taiwan	661	130	-----	220	461	-----
Other	-----	22	-----	-----	35	8
Total	24,928	8,457	6,867	14,978	20,429	986
Oceania	[r] 10,657	-----	276	1,206	3,053	109
Grand total	[r] 525,021	[r] 68,235	27,029	520,938	124,106	33,616
Value, thousands	[r] $217,244	[r] $39,833	$8,482	$216,977	$76,887	$10,782

[r] Revised.

[1] Includes circles, disks, bars, rods, plates, sheets, etc.

[2] Less than ½ unit.

Table 15.—World production of aluminum by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	690,297	719,390	[r] 842,640	[r] 840,346	902,000
Mexico	-----	6,100	19,487	21,041	23,040
United States	2,117,929	2,312,528	2,552,747	2,754,478	2,968,366
South America:					
Brazil	22,202	19,412	29,366	32,617	[e] 38,000
Surinam	-----	-----	-----	[e] 2,200	[2] 28,330
Europe:					
Austria	81,668	84,287	85,646	86,790	87,002
Czechoslovakia [e]	65,000	65,000	65,000	68,000	68,000
France	325,288	328,891	348,319	[r] 375,367	400,701
Germany:					
East [e]	50,000	50,000	50,000	55,000	55,000
West	196,017	230,142	242,418	258,407	268,839
Greece	-----	-----	-----	-----	39,683
Hungary	58,127	[r] 61,174	62,693	64,043	66,685
Italy	91,390	100,782	[r] 127,422	[r] 136,660	140,704
Netherlands	-----	-----	-----	-----	22,422
Norway	226,941	238,209	[r] 287,724	[r] 303,804	363,950
Poland (includes secondary)	53,007	51,365	52,639	[r] 52,146	60,816
Rumania	-----	-----	-----	25,127	51,644
Spain	45,953	50,142	54,723	56,660	67,019
Sweden (includes alloys)	17,580	18,878	[r] 35,308	[r] 32,656	[3] 32,518
Switzerland	54,640	66,260	70,805	[r] 74,020	74,990
U.S.S.R. [e]	990,000	1,060,000	1,100,000	1,410,000	1,430,000
United Kingdom	38,113	34,243	35,516	39,911	40,934
Yugoslavia	30,843	39,567	38,320	[r] 45,545	46,321
Africa: Cameroon, Republic of	57,596	58,327	56,777	[r] 55,652	53,086
Asia:					
China [e]	110,000	110,000	110,000	110,000	110,000
India	39,025	60,881	[r] 62,465	74,041	91,803
Japan [4]	188,991	246,854	292,950	[r] 323,972	371,778
Taiwan	12,135	13,148	21,354	20,847	18,978
Oceania: Australia	18,090	46,214	88,194	[r] 96,744	101,427
World total [e]	5,580,000	[r] 6,070,000	[r] 6,735,000	7,415,000	8,025,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available June 1967.

[2] Exports.

[3] Includes secondary.

[4] Includes super-purity: 1962, 1,969; 1963, 2,060; 1964, 2,136; 1965, 2,023; and 1966, 2,278.

Antimony

Table 1.—Salient antimony statistics

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Primary:						
Mine	683	631	645	632	845	927
Smelter [1]	9,998	11,727	12,117	13,358	12,389	14,539
Secondary	20,338	19,362	20,803	22,339	24,321	24,258
Exports of ore, metal and alloys	256	45	143	807	14	29
Imports, general (antimony content)	13,375	16,833	17,781	16,718	14,879	19,712
Consumption [2]	12,711	15,452	16,532	15,839	16,919	19,681
Price: New York, average cents per pound	32.67	34.75	34.75	42.22	45.75	45.75
World: Production	56,340	59,200	61,500	68,400	66,700	65,800

[1] Includes primary content of antimonial lead produced at primary lead smelters.

[2] Includes primary content of antimonial lead produced at primary lead smelters and antimony content of alloys imported 1957 through 1963. Not available thereafter.

Table 2.—Antimony mine production and shipments in the United States

(Short tons)

Year	Antimony concentrate		Antimony	
	Quantity	Antimony content, percent	Produced	Shipped
1957–61 (average)	4,101	17.1	683	703
1962	3,941	16.0	631	732
1963	3,540	18.2	645	503
1964	3,296	19.2	632	789
1965	4,711	17.9	845	848
1966	5,582	16.6	927	930

Table 3.—Primary antimony produced in the United States

(Short tons, antimony content)

Year	Class of material produced					Total
	Metal	Oxide	Sulfide	Residues	Byproduct antimonial lead	
1957–61 (average)	3,676	4,449	81	400	1,392	9,998
1962	4,407	4,788	53	366	2,113	11,727
1963	4,160	5,983	76	392	1,506	12,117
1964	4,418	6,748	53	447	1,692	13,358
1965	4,216	6,485	94	205	1,389	12,389
1966	4,567	7,794	126	219	1,833	14,539

Table 4.—Secondary antimony produced in the United States, by kind of scrap and form of recovery

(Short tons, antimony content)

Kind of scrap	1965	1966
New scrap:		
Lead-base	2,529	2,786
Tin-base	82	80
Total	2,611	2,866
Old scrap:		
Lead-base	21,675	21,361
Tin-base	35	31
Total	21,710	21,392
Grand total	24,321	24,258

Form of recovery	1965	1966
In antimonial lead [1]	16,574	16,895
In other lead alloys	7,726	7,340
In tin-base alloys	21	23
Total	24,321	24,258
Value (millions)	$22.3	$22.2

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[1] Includes 595 tons of antimony recovered in antimonial lead from secondary sources at primary plants in 1965 and 286 tons in 1966.

Table 5.—Byproduct antimonial lead produced at primary lead refineries in the United States

(Short tons)

Year	Gross weight	Antimony content				
		From domestic ores [1]	From foreign ores [2]	From scrap	Total	
					Quantity	Percent
1957–61 (average)	44,166	851	541	860	2,252	5.2
1962	33,325	1,361	752	136	2,249	6.7
1963	18,818	836	670	384	1,890	10.0
1964	24,023	997	695	303	1,995	8.3
1965	27,895	998	391	595	1,984	7.1
1966	24,059	1,417	416	286	2,119	8.8

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[1] Includes primary residues and a small quantity of antimony ore.
[2] Includes foreign base bullion and small quantities of foreign antimony ore.

Table 6.—Industrial consumption of primary antimony in the United States [1]

(Short tons, antimony content)

Year	Class of material consumed						Total
	Ore and concentrate	Metal	Oxide	Sulfide	Residues	Byproduct antimonial lead	
1957–61 (average)	359	4,908	5,569	83	400	1,392	12,711
1962	137	6,126	6,642	68	366	2,113	15,452
1963	266	7,124	7,173	71	392	1,506	16,532
1964	252	6,050	7,325	73	447	1,692	15,839
1965	404	6,992	7,847	81	206	1,389	16,919
1966	450	6,269	10,829	81	219	1,833	19,681

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[1] Includes antimony content of imported antimonial lead consumed 1957 through 1963. Not available thereafter.

Table 7.—Industrial consumption of primary antimony in the United States, by class of material produced

(Short tons, antimony content)

Product	1957–61 (average)	1962	1963	1964	1965	1966
Metal products:						
Ammunition	3	W	W	15	36	154
Antimonial lead [1]	4,236	6,090	6,462	5,952	6,382	6,285
Bearing metal and bearings	803	682	992	804	821	731
Cable covering	167	114	101	49	68	164
Castings	79	64	49	50	76	62
Collapsible tubes and foil	26	112	72	53	49	44
Sheet and pipe	216	127	81	99	104	107
Solder	106	172	188	149	244	155
Type metal [1]	679	429	652	513	642	515
Other	146	271	199	167	214	219
Total [1]	6,461	8,061	8,796	7,851	8,636	8,436
Nonmetal products:						
Ammunition primers	12	14	15	17	16	27
Fireworks	30	23	36	47	46	50
Flameproofing chemicals and compounds	973	1,215	1,601	1,626	1,971	3,188
Ceramics and glass	1,555	1,146	1,465	1,649	1,853	2,074
Matches	20	9	5	W	W	-----
Pigments	1,085	1,161	1,009	1,173	855	832
Plastics	973	1,269	1,352	1,289	1,469	2,224
Rubber products	258	460	597	492	477	870
Other	1,344	2,094	1,656	1,695	1,596	1,980
Total	6,250	7,391	7,736	7,988	8,283	11,245
Grand total	12,711	15,452	16,532	15,839	16,919	19,681

W Withheld to avoid disclosing individual company confidential data; included with "Other."

[1] Includes antimony content of imported antimonial lead consumed 1957 through 1963. Not available thereafter.

Table 8.—Industry stocks of primary antimony in the United States, December 31

(Short tons, antimony content)

Stocks	1962	1963	1964	1965	1966
Ore and concentrate	1,450	1,970	1,647	2,735	2,720
Metal	1,599	1,420	1,433	1,585	1,572
Oxide	1,895	1,861	2,895	2,705	3,093
Sulfide	90	81	81	98	131
Residues and slags	999	1,081	935	1,088	519
Antimonial lead [1]	403	651	309	411	531
Total	6,436	7,064	7,300	8,622	8,566

[1] Inventories from primary sources at primary lead smelters only.

Table 9.—Antimony price ranges in 1966

Type of antimony:		*Price*
Domestic metal [1]	cents per pound	44.00
Foreign metal [2]	do	40.00 to 46.50
Antimony trioxide [3]	do	47.50
Antimony ore,[3] 50 to 55 percent	dollars per short-ton unit	4.55 to 5.75
Antimony ore, minimum 60 percent	do	5.80 to 6.25
Antimony ore, minimum 65 percent	do	5.45 to 6.50

[1] RMM brand, f.o.b., Laredo, Tex.

[2] Duty-paid delivery, New York.

[3] Quoted in E&MJ Metal and Mineral Markets.

Table 10.—U.S. imports [1] of antimony, by countries

Year and country	Antimony ore			Antimony metal [2]		Antimony oxide	
	Short tons (gross weight)	Antimony content: Short tons	Antimony content: Value (thousands)	Short tons (gross weight)	Value (thousands)	Short tons (gross weight)	Value (thousands)
1957–61 (average)	15,499	6,252	$1,291	4,905	$2,269	1,986	[3] $833
1962	20,122	8,602	2,168	4,757	2,317	2,910	1,391
1963	22,807	9,784	2,675	5,718	2,969	2,089	1,038
1964	23,480	10,676	3,294	3,453	2,613	3,131	3,022
1965:							
Belgium-Luxembourg	---	---	---	132	115	715	611
Bolivia	3,806	2,304	1,286	5	5	---	---
Canada	58	15	2	(4)	19	---	---
Chile	405	256	133	---	---	---	---
Congo (Kinshasa)	---	---	---	3	8	---	---
Ecuador	129	78	41	---	---	---	---
France	---	---	---	---	---	298	274
Germany, West	---	---	---	(4)	5	113	96
Honduras	54	28	14	---	---	---	---
Japan	---	---	---	---	---	18	17
Mexico	11,895	3,770	638	283	190	---	---
Morocco	304	118	56	---	---	---	---
Netherlands	---	---	---	---	---	32	29
Pakistan	---	---	---	---	---	11	10
Peru	218	153	69	240	193	---	---
South Africa, Republic of	5,353	3,292	1,864	95	37	---	---
Spain	---	---	---	16	13	---	---
Thailand	529	259	168	7	6	---	---
United Kingdom	---	---	---	496	409	991	765
Uruguay	135	87	39	---	---	---	---
Yugoslavia	---	---	---	1,442	1,165	---	---
Total	22,886	10,360	4,310	2,719	2,165	2,178	1,802
1966:							
Australia	148	98	49	---	---	---	---
Belgium-Luxembourg	---	---	---	518	390	1,751	1,323
Bolivia	5,627	3,470	1,559	19	17	---	---
Brazil	181	112	20	---	---	---	---
Canada	---	---	---	(4)	18	11	9
Chile	1,154	723	334	6	5	---	---
France	---	---	---	---	---	663	496
Germany, West	---	---	---	(4)	1	261	189
Honduras	30	17	5	---	---	---	---
Ireland	---	---	---	(4)	1	---	---
Italy	141	85	40	---	---	---	---
Japan	---	---	---	---	---	5	4
Mexico	12,288	3,868	723	382	248	---	---
Morocco	138	65	15	---	---	---	---
Netherlands	---	---	---	---	---	27	21
Peru	---	---	---	187	126	---	---
South Africa, Republic of	6,496	4,006	2,001	---	---	---	---
Spain	---	---	---	22	17	---	---
Turkey	26	16	8	17	10	---	---
United Kingdom	---	---	---	288	216	2,648	1,946
Yugoslavia	---	---	---	1,366	1,003	17	10
Total	26,229	12,460	4,754	2,805	2,052	5,383	3,998

---

[1] Data are general imports; that is, they include antimony imported for immediate consumption plus material entering the country under bond. Table does not include antimony contained in lead-silver ores.

[2] Includes data for needle or liquated antimony for the following countries (value in thousand dollars): 1957–61 average, United Kingdom, 46 tons ($20), 1962; 6 tons ($3), 1963; 7 tons ($3), 1964; 27 tons ($18), 1965; 20 tons ($16), 1966; 28 tons ($21); 1957–61 average, Belgium-Luxembourg, 15 tons ($6); 1962; 11 tons ($5), 1963; 15 tons ($8), 1965; 3 tons ($2), 1966; 35 tons ($21); 1957–61 average, Yugoslavia, 14 tons ($7); Austria, 1964; 4 tons ($3).

[3] 1957 data known to be not comparable with other years.

[4] Less than ½ unit.

Table 11.—U.S. imports for consumption of antimony [1]

Year	Antimony ore			Needle or antimony liquated		Antimony metal		Antimony oxide	
		Antimony content							
	Short tons (gross weight)	Short tons	Value (thousands)	Short tons (gross weight)	Value (thousands)	Short tons	Value (thousands)	Short tons (gross weight)	Value (thousands)
1957–61 (average) [2]	15,499	6,252	$1,291	78	$34	4,893	$2,268	1,986	$833
1962	20,122	8,602	2,168	17	8	4,720	2,300	2,910	1,391
1963	22,807	9,784	2,675	22	11	5,717	2,968	2,089	1,038
1964	23,480	10,676	3,294	31	21	3,307	2,481	3,181	3,022
1965	22,886	10,360	4,310	23	18	2,650	2,112	2,173	1,798
1966	26,229	12,460	4,754	63	42	2,767	2,031	5,383	3,998

[1] Does not include antimony contained in lead-silver ore.
[2] 1957 data known to be not comparable with other years.

Table 12.—World production of antimony (content of ore except as indicated) by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada [2]	966	801	796	[r] 651	676
Guatemala (U.S. imports)	32	31	---	---	---
Mexico [3]	5,257	5,320	5,278	4,924	4,915
United States	631	645	632	845	927
South America:					
Bolivia (exports) [3]	7,331	8,337	10,626	[r] 9,663	11,759
Peru [3]	575	674	752	[r] 713	741
Europe:					
Austria (recoverable)	767	548	585	434	250
Czechoslovakia [e]	2,200	2,200	2,200	2,200	2,200
France	---	110	[r] 119	[r] 133	[e] 120
Italy	[r] 373	266	[r] 592	293	321
Portugal	---	7	13	[r] 12	3
Spain	175	65	60	[r] 95	100
U.S.S.R. [e]	6,600	6,700	6,700	6,800	6,800
Yugoslavia (metal)	2,966	2,933	3,008	3,051	2,916
Africa:					
Algeria	149	---	---	71	[e] 70
Morocco	449	744	1,720	[r] 2,425	1,480
Rhodesia, Southern	61	66	49	[e] 200	NA
South Africa, Republic of	11,697	12,410	14,200	13,901	12,534
Asia:					
Burma [e] [3]	[r] 140	[r] 165	[r] 165	[r] 165	220
China [e]	16,500	16,500	16,500	16,500	16,500
Iran [4]	---	---	[5] 66	[e] [5] 75	[e] [5] 110
Japan	190	212	554	[r] 201	85
Pakistan	75	9	90	67	NA
Sarawak	---	---	86	[r] 61	NA
Thailand	19	676	1,399	[e] 1,380	1,171
Turkey	1,962	1,981	1,915	[r] 1,840	1,780
Oceania: Australia	74	83	305	39	110
World total [e]	[r] 59,200	[r] 61,500	[r] 68,400	[r] 66,700	65,800

[e] Estimate. [p] Preliminary. [r] Revised. NA Not Available.
[1] Compiled mostly from data available June 1967.
[2] Antimony content of smelter products exclusively from mixed ores.
[3] Includes antimony content of smelter products derived from mixed ores.
[4] Year ended March 20 of year following that stated.
[5] Exports.

Arsenic

Table 1.—Consumption of arsenic wood preservatives in the United States

(Short tons)

Year	Consumption of wood preservatives	
	Wolman salts (25 percent sodium arsenate)	Other
1964	1,970	1,646
1965	1,864	2,288
1966 p	2,195	2,424

p Preliminary.

Source: Forest Service, U.S. Department of Agriculture.

Table 2.—U.S. imports for consumption of white arsenic (As_2O_3 content), by countries

Country	1964		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Belgium-Luxembourg	---	---	---	---	(1)	(1)
Canada	35	$4	---	---	---	---
France	3,430	231	3,447	$238	4,315	$331
Mexico	11,860	938	10,288	889	11,828	945
South Africa, Republic of	---	---	---	---	6	(1)
Sweden	2,847	209	1,691	136	2,526	201
U.S.S.R.	13	1	99	8	---	---
Total	18,185	1,383	15,525	1,271	18,675	1,477

[1] Less than ½ unit.

Table 3.—U.S. exports and imports of arsenicals, by classes

(Thousand pounds)

Class	1962	1963	1964	1965	1966
Exports:					
Calcium arsenate	942	187	1,537	(1)	(1)
Lead arsenate	1,423	803	1,872	(1)	(1)
Imports for consumption:					
White arsenic (As_2O_3 content)	31,516	29,118	36,370	31,050	37,350
Metallic arsenic	229	338	308	361	362
Sulfide	66	36	55	92	60
Sheepdip	15	20	20	20	---
Calcium arsenate	---	---	---	---	200
Sodium arsenate	255	273	321	309	364

[1] Beginning Jan. 1, 1965, no longer separately classified.

Table 4.—Free world production of white arsenic, by countries [1]
(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
Brazil	164	323	207	282	[e] 275
Canada	80	94	162	[r] 202	225
France	7,477	11,668	12,563	[3] 11,436	[e] 11,200
Germany, West (exports)	75	62	42	78	416
Italy	140	---	---	---	---
Japan	1,011	904	550	[r] 528	603
Mexico [4]	16,352	14,666	16,380	15,188	[e] 18,000
Peru	572	683	685	550	[e] 550
Portugal	634	622	410	[5] 440	[e] 330
Rhodesia, Southern	1,207	605	206	[e] 70	NA
South-West Africa	---	---	---	---	44
Spain	234	161	158	[r] 131	123
Sweden	6,342	16,369	19,809	[r] 18,188	[e] 18,200
Free world total [e]	49,600	61,000	64,500	[r] 66,300	66,300

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Arsenic may be produced in Argentina, Austria, mainland China, Czechoslovakia, East Germany, Finland, Hungary, U.S.S.R. (estimated range 7,000 to 8,000 tons), United Kingdom and Yugoslavia, but there is too little information to estimate production. Estimate included in world total for Belgium and United States. U.S. figure withheld to avoid disclosing individual company confidential data.

[2] Compiled mostly from data available May 1967.

[3] Exports.

[4] Including black arsenic.

[5] Estimated equivalent recoverable arsenic trioxide content of concentrates produced.

Bauxite

Table 1.—Salient bauxite statistics

(Thousand long tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production, crude ore (dry equivalent)	1,530	1,369	1,525	1,601	1,654	1,796
Value	$15,691	$15,609	$17,234	$17,875	$18,632	$20,095
Exports (as shipped)	54	259	203	279	147	62
Imports for consumption [1]	8,221	10,575	9,212	10,180	11,199	11,529
Consumption (dry equivalent)	8,158	10,577	11,318	12,546	13,534	14,084
World: Production	24,013	30,625	30,255	33,000	36,970	40,370

[1] Includes bauxite imported for Government account. Import figures for Jamaican, Haitian, and Dominican Republic bauxite included were adjusted by Bureau of Mines to dry equivalent. Other imports, which are virtually all dried, are on an as-shipped basis.

Table 2.—Mine production of bauxite and shipments from mines and processing plants to consumers in the United States

(Thousand long tons and thousand dollars)

State and year	Mine production			Shipments from mines and processing plants to consumers		
	Crude	Dry equivalent	Value [1]	As shipped	Dry equivalent	Value [1]
Alabama and Georgia:						
1957–61 (average)	75	59	$570	56	55	$611
1962	120	99	1,003	50	53	609
1963	60	47	533	54	62	747
1964	51	39	444	57	57	809
1965	79	61	658	57	56	792
1966	102	78	656	85	82	1,108
Arkansas:						
1957–61 (average)	1,766	1,471	15,121	1,708	1,461	16,202
1962	1,523	1,270	14,606	1,715	1,481	17,535
1963	1,771	1,478	16,701	1,725	1,483	17,543
1964	1,864	1,562	17,481	1,773	1,531	17,859
1965	1,911	1,593	17,974	2,008	1,729	20,293
1966	2,060	1,718	19,439	1,891	1,636	19,788
Total United States:						
1957–61 (average)	1,841	1,530	15,691	1,764	1,516	16,813
1962	1,643	1,369	15,609	1,765	1,534	18,144
1963	1,831	1,525	17,234	1,779	1,545	18,290
1964	1,915	1,601	17,875	1,830	1,588	18,668
1965	1,990	1,654	18,632	2,065	1,785	21,085
1966	2,162	1,796	20,095	1,976	1,718	20,896

[1] Computed from selling prices and values assigned by producers and estimates of the Bureau of Mines.

Table 3.—Recovery of dried, calcined, and activated bauxite in the United States

(Long tons)

Year	Crude ore treated	Processed bauxite recovered			
		Dried	Calcined or activated	Total	
				As recovered	Dry equivalent
1957–61 (average)	187,053	76,534	46,247	122,781	148,368
1962	172,262	37,776	57,232	95,008	141,969
1963	170,641	35,727	61,853	97,580	137,946
1964	166,884	W	W	93,235	128,347
1965	193,076	W	W	99,765	140,713
1966	202,443	W	W	117,326	157,206

W Withheld to avoid disclosing individual company confidential data.

Table 4.—Bauxite consumed in the United States, by industries

(Long tons, dry equivalent)

Year and industry	Domestic	Foreign	Total
1965:			
Alumina	1,630,021	10,991,592	12,621,613
Abrasive [1]	W	266,115	[2] 266,115
Chemical	97,791	162,769	260,560
Refractory	29,562	268,410	297,972
Other	44,930	42,499	87,429
Total [1]	1,802,304	11,731,385	13,533,689
1966:			
Alumina	1,687,643	11,420,670	13,108,313
Abrasive [1]	W	296,369	[2] 296,369
Chemical	104,738	189,539	294,277
Refractory	39,802	272,979	312,781
Other	28,259	43,942	72,201
Total [1]	1,860,442	12,223,499	14,083,941

W Withheld to avoid disclosing individual company confidential data; included with "Other."

[1] Includes consumption by Canadian abrasive industry.

[2] Excludes domestic.

Table 5.—Bauxite consumed in the United States in 1966, by grades

(Long tons, dry equivalent)

Grade	Domestic origin	Foreign origin	Total
Crude	1,718,765	428,711	2,147,476
Dried	28,910	11,229,516	11,258,426
Activated	16,772	------	16,772
Calcined	95,995	565,272	661,267
Total	1,860,442	12,223,499	14,083,941

Table 6.—Capacities of domestic alumina plants in operation and under construction

Company and plant	Capacity as of Dec. 31, 1966 (short tons per year)	
	Operating plants	Plants under construction
Aluminum Company of America:		
Mobile, Ala.	880,000	--------
Bauxite, Ark.	440,000	--------
Point Comfort, Tex.	880,000	--------
Total	2,200,000	--------
Reynolds Metals Co.:		
Hurricane Creek, Ark.	803,000	--------
La Quinta, Tex.	876,000	220,000
Total	1,679,000	220,000
Kaiser Aluminum & Chemical Corp.:		
Baton Rouge, La.	940,000	--------
Gramercy, La.	610,000	--------
Total	1,550,000	--------
Ormet Corp.: Burnside, La.	479,000	33,000
Harvey Aluminum, Inc.: St. Croix, Virgin Islands	--------	220,000
Grand total	5,908,000	473,000

Table 7.—Production and shipments of selected aluminum salts in the United States in 1965

Type of salt	Number of plants producing	Production (short tons)	Total shipments including interplant transfers	
			Short tons	Value (thousands)
Aluminum sulfate:				
Commercial (17 percent Al_2O_3)	57	1,052,252	1,032,289	$38,587
Municipal (17 percent Al_2O_3)	4	4,335	XX	XX
Iron-free (17 percent Al_2O_3)	15	57,901	35,840	2,134
Aluminum chloride:				
Liquid (32° Be) Crystal (32° Be)	10	27,066	15,484	1,269
Anhydrous (100 percent $AlCl_3$)	9	33,428	33,574	7,984
Aluminum fluoride, technical	6	111,902	110,932	26,984
Aluminum hydroxide, trihydrate (100 percent $Al_2O_3.3H_2O$)	8	265,692	244,386	17,375
Other inorganic aluminum compounds [1]	XX	XX	XX	14,373
Total	XX	XX	XX	108,706

XX Not applicable.

[1] Includes sodium aluminate, light aluminum hydroxide, cryolite and alums.

Source: Data are based upon Bureau of the Census report Form MA-28E.1, Annual Report on Shipments and Production of Inorganic Chemicals.

Table 8.—Stocks of bauxite in the United States [1]

(Long tons)

Year	Producers and processors		Consumers	
	Crude	Processed [2]	Crude	Processed [2]
1962	1,121,705	9,960	542,539	1,920,051
1963	1,143,893	8,967	499,526	1,696,700
1964	1,163,770	10,264	r 402,394	r 1,399,509
1965	1,007,020	8,689	419,525	1,609,104
1966	1,129,759	10,424	414,446	2,167,741

r Revised.

[1] Excludes strategic stockpile.

[2] Dried, calcined, and activated.

Table 9.—Average value of domestic bauxite in the United States [1]

(Per long ton)

Type	Shipments f.o.b. mines or plants	
	1965	1966
Crude (undried)	$ 9.52	$ 9.70
Dried	W	W
Calcined	19.90	21.20
Activated	W	W

W Withheld to avoid disclosing individual company confidential data.

[1] Calculated from reports to the Bureau of Mines by bauxite producers.

Table 10.—Average value of U.S. exports and imports of bauxite

(Per long ton)

Type and country	Average value port of shipment	
	1965	1966
Exports: Bauxite and bauxite concentrate	$73.12	$69.27
Imports:		
Crude and dried:		
Brazil	-----	17.98
Dominican Republic	r 12.42	12.49
Greece	14.28	14.00
Guyana	10.15	9.88
Haiti	9.40	9.40
Jamaica	12.35	12.45
Surinam	9.46	9.67
Trinidad and Tobago	-----	10.68
United Kingdom	-----	13.70
Average	r 11.48	11.54
Calcined: [1]		
Canada	31.55	39.39
Guyana	26.22	29.90
Surinam	23.94	26.17
Trinidad and Tobago	-----	32.32
Average	25.78	29.41

r Revised.

[1] For refractory use

Table 11.—Market quotations on alumina and aluminum compounds

Compound	Dec. 27, 1965	Dec. 26, 1966
Alumina, calcined, bags, carlots, works ... pound	$0.0530	$0.0530
Aluminum hydrate, heavy, bags, carlots, freight equalized ... do	.0370	.0370
Aluminum sulfate, commercial, ground, bulk, carlots, works, freight equalized ... ton	44.00	48.25
Aluminum sulfate, iron-free, bags, carlots, works, freight equalized ... 100 pounds	3.80	3.80

Source: Oil, Paint and Drug Reporter.

Table 12.—U.S. exports of bauxite (including bauxite concentrates), by countries

(Thousand long tons)

Destination	1957–61 (average)	1962	1963	1964	1965	1966
North America:						
Canada	43	161	121	191	85	9
Mexico	1	1	20	31	39	35
Other	(1)	(1)	(1)	1	(1)	---
Total	44	162	141	223	124	44
South America	(1)	1	1	(1)	(1)	---
Europe	9	63	24	17	7	7
Africa	(1)	(1)	(1)	(1)	(1)	---
Asia	1	23	4	2	(1)	11
Oceania	(1)	10	33	37	16	(1)
Grand total as reported	54	259	203	279	147	62
Dried bauxite equivalent	84	401	315	432	228	96
Value thousands	$4,483	$19,874	$15,696	$22,211	$10,736	$4,275

[1] Less than ½ unit.

Table 13.—U.S. imports for consumption of bauxite (crude and dried) by countries [1]

(Thousand long tons and thousand dollars)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Dominican Republic	348	719	729	640	r 775	653
Guyana	285	560	335	253	87	326
Haiti	314	437	328	396	330	283
Jamaica	4,380	5,986	5,239	5,792	6,602	6,665
Surinam	2,882	2,856	2,487	3,027	2,962	3,500
Trinidad and Tobago [2]	5	2	73	43	407	63
Other Countries	7	15	21	29	36	39
Total: Quantity	8,221	10,575	9,212	10,180	r 11,199	11,529
Value	$74,285	$212,880	$114,546	$128,787	$142,989	$147,335

r Revised.

[1] Official Bureau of the Census import data for Jamaican, Haitian, and Dominican Republic bauxite have been converted to dry equivalent by deducting 13.6 percent free moisture for Jamaican; 14.6 percent for Haitian in 1957 and 13.6 in 1958 and subsequent years; and 17.7 percent for Dominican Republic. Other imports, which are virtually all dried, are on an as-shipped basis.

[2] Bauxite imports from Trinidad originated in Guyana and Surinam. Bauxite is not produced in Trinidad

Table 14.—U.S. imports of alumina for use in producing aluminum, by countries

(Short tons and thousand dollars)

Country	1965	1966
Jamaica	43,245	85,552
Guyana	19,693	42,479
Surinam	15,390	196,838
Japan	77,177	57,452
Guinea	71,045	66,020
Australia	------	18,600
France	------	13,664
Other countries	1	7,918
Total: Quantity	226,551	488,523
Value	$ 13,527	$ 27,383

Table 15.—World production of bauxite by countries

(Thousand long tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America (dried equivalent of crude ore):					
Dominican Republic (shipments)	[r] 706	[r] 761	[r] 748	[r] 927	820
Haiti	[r] 485	327	[r] 430	[r] 377	356
Jamaica	7,495	6,903	[2] 7,811	[2] 8,514	[2] 8,929
United States	1,369	1,525	1,601	1,654	1,796
South America:					
Brazil	188	167	130	[r] 154	[e] 155
Guyana	[r] 2,719	2,342	2,468	[r] 2,873	[e] 2,865
Surinam	3,245	3,384	3,930	4,291	4,513
Europe:					
Austria	17	18	4	---	---
France	2,160	1,997	2,394	[r] 2,620	2,761
Germany, West	5	4	4	4	[e] 4
Greece	1,267	[r] 1,256	[r] 1,046	[r] 1,237	[e] 1,180
Hungary	1,450	[r] 1,341	[r] 1,454	1,455	1,406
Italy	305	264	[r] 248	241	250
Rumania	30	10	7	[e] [r] 80	[e] 200
Spain	6	12	7	[r] 7	[e] 7
U.S.S.R. [e] [3]	4,200	4,300	4,300	4,700	4,800
Yugoslavia	1,311	1,265	1,273	1,549	1,857
Africa:					
Ghana	289	309	246	314	318
Guinea, Republic of	1,445	1,638	1,652	1,840	3,150
Mozambique	6	6	6	6	[e] 5
Rhodesia, Southern	1	2	2	2	NA
Sierra Leone	---	[e] 30	151	204	268
Asia:					
China (diasporic) [e]	400	400	400	400	400
India	568	[r] 556	582	695	738
Indonesia	454	485	688	[r] 677	[e] 690
Malaysia:					
Malaya	349	444	464	848	940
Sarawak	225	155	158	[r] 185	[e] 140
Turkey	---	---	4	10	31
Oceania: Australia	30	354	841	[r] 1,158	1,795
World total [e]	[r] 30,625	[r] 30,255	[r] 33,000	[r] 36,970	40,370

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available June 1967.

[2] Bone dry equivalent of bauxite shipments and bauxite converted into alumina.

[3] Excludes nepheline concentrates and alunite ores.

Table 16.—Production and trade of bauxite in 1965, by major countries

(Thousand long tons)

Country	Production	Exports by country of destination										
		Total	North America		Europe						Asia (Japan)	All other countries
			Canada	United States	France	Germany, West	Italy	Spain	U.S.S.R.[1]	United Kingdom	Other Europe		
North America:													
Dominican Republic	927	1,121	---	1,121	---	---	---	---	---	---	---	---	---
Haiti	377	[2] 330	---	330	---	---	---	---	---	---	---	---	---
Jamaica	[3] 8,514	6,785	---	6,785	---	---	---	---	---	---	---	---	---
United States	1,654	147	85	---	1	---	(4)	6	---	(4)	(4)	(4)	55
South America:													
Brazil	154	2	---	---	---	---	---	---	---	---	---	---	2
Guyana	2,873	1,758	946	600	[5] 46	[5] 31	22	10	---	58	---	22	23
Surinam	4,291	4,300	695	3,581	---	---	---	[5] 14	---	---	5	---	5
Europe:													
France	2,620	199	---	---	---	101	3	2	---	78	5	---	10
Germany, West	4	1	---	---	---	---	---	---	---	---	1	---	---
Greece	1,237	1,132	---	36	55	343	46	62	453	70	67	---	---
Hungary	1,455	555	---	---	---	[5] 29	---	---	[5] 526	---	---	---	---
Italy	241	3	---	---	2	---	---	---	---	---	1	---	---
Rumania	[e] 80	NA	---	---	---	---	---	---	NA	---	---	---	---
Spain	7	---	---	---	---	---	---	---	---	---	---	---	---
U.S.S.R.	[e] [6] 4,700	NA	---	---	---	---	---	---	---	---	---	---	---
Yugoslavia	1,549	1,144	---	5	---	634	226	---	269	---	10	---	---
Africa:													
Ghana	314	283	---	10	---	---	10	---	---	263	---	---	---
Guinea, Republic of	1,840	240	[5] 77	---	---	---	[5] 47	---	[5] 116	---	---	---	---
Mozambique	6	6	---	---	---	---	---	---	---	---	---	---	6
Rhodesia, Southern	2	---	---	---	---	---	---	---	---	---	---	---	---
Sierra Leone	204	173	---	---	---	[e] 111	[5] 62	---	---	---	---	---	(4)
Asia:													
China (diasporic)	[e] 400	NA	---	---	---	---	---	---	---	---	---	---	---
India	695	62	---	---	---	26	17	---	4	(4)	---	14	1
Indonesia	677	[5] 583	---	---	---	[5] 28	---	---	---	---	---	[5] 555	---
Malaysia:													
Malaya	843	671	---	---	---	4	---	---	---	---	---	423	244
Sarawak	185	165	---	---	---	---	---	---	---	---	---	165	---
Turkey	10	---	---	---	---	---	---	---	---	---	---	---	---
Oceania: Australia	1,158	611	---	---	---	[5] 226	---	---	---	---	---	[e] 385	---
World total	36,970	20,271	1,803	12,468	104	1,533	433	94	1,368	469	89	1,564	346

[e] Estimate. NA Not available.

[1] U.S.S.R. and other Communist nations of East Europe.

[2] U.S. imports.

[3] Bone dry equivalent of bauxite shipments and bauxite converted into alumina.

[4] Less than ½ unit.

[5] Imports.

[6] Excludes nepheline concentrates and alunite ore.

Beryllium

Table 1.—Salient beryl statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States: Beryl, approximately 11 percent BeO unless otherwise stated:						
Domestic beryl shipped from mines ------short tons--	375	218	1	W	W	W
Other domestic low-grade beryllium ore ------short tons--	[1]302	760	750	----	----	----
Imports ------do------	7,477	8,552	6,243	5,425	7,791	2,147
Consumption ------do------	7,514	7,758	7,934	4,435	5,845	6,026
Price, approximate, per unit BeO imported, cobbed beryl at port of exportation-----	$30	$31	$24	$23	$24	$25
World: Production ------short tons--	11,080	11,000	7,700	5,200	4,900	3,600

W Withheld to avoid disclosing individual company confidential data.

[1] Material first available in 1958: average 1958–61.

Table 2.—U.S. exports of beryllium alloys, wrought or unwrought, and waste and scrap [1]

Country	1965		1966	
	Pounds	Value (thousands)	Pounds	Value (thousands)
Australia	2	---	-----	----
Austria	2	$1	-----	----
Brazil	------	---	37	$3
Canada	29,294	79	3,152	20
Congo (Kinshasa)	------	---	82	2
Denmark	35	7	1	1
France	3,187	104	9,038	464
Germany, West	44,776	157	10,459	141
Israel	------	---	986	2
Italy	241	8	3	1
Japan	1,164	33	5,905	228
Korea, South	------	---	17	1
Mexico	220	1	2,220	2
Netherlands	5	1	4	1
Norway	6,684	7	11,619	10
Philippines	------	---	3	1
South Africa, Republic of	8	3	----	----
Spain	1,107	5	----	----
Sweden	2	1	----	----
Switzerland	40	1	1	(2)
United Kingdom	32,969	212	17,727	206
Yugoslavia	25	4	----	----
Total	119,761	624	61,254	1,083

---

[1] Consisting of beryllium lumps, single crystals, and powder; beryllium-base alloy powder; and beryllium rods, sheets, and wire.

[2] Less than ½ unit.

Table 3.—U.S. imports for consumption of beryl, by customs districts and countries

(Short tons)

Customs district and country	1965	1966
Philadelphia customs district:		
Argentina	257	218
Australia	1,484	15
Bolivia	33	----
Brazil	1,089	877
Burma	----	22
Burundi and Rwanda	167	----
Congo (Kinshasa)	1,368	----
Finland	----	17
Italy	61	----
Kenya	254	----
Malagasy Republic	77	10
Mozambique	295	62
Portugal	74	11
South Africa, Republic of	514	67
Southern Rhodesia	101	72
Zambia		----
Malawi		----
Uganda	245	101
Western Africa, n.e.c.	----	17
Total Philadelphia	6,019	1,489
New York Port customs district:		
Australia	14	27
Brazil	83	----
Burundi and Rwanda	----	88
Mozambique	----	8
South Africa, Republic of	----	7
Uganda	168	28
Total New York Port	265	158
Baltimore: India	1,507	500
Grand total	7,791	2,147
Value (thousands)	$2,056	$581

Table 4.—Imports of beryllium products, in 1966, by countries

Country	Beryllium, unwrought, waste and scrap		Wrought beryllium		Beryllium oxide or carbonate		Other beryllium compounds	
	Pounds	Value (thousands)	Pounds	Value (thousands)	Pounds	Value (thousands)	Pounds	Value (thousands)
France	9,323	$509	550	$36	--	--	2,520	$17
Japan	-----	---	---	--	20	(1)	----	--
United Kingdom	6,770	7	---	--	--	--	----	--
Total	16,093	516	550	36	20	(1)	2,520	17

[1] Less than ½ unit.

Table 5.—World production of beryl, by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Argentina	[2] 998	[2] 825	[2] 442	[r] [2] 175	[3] 218
Australia	250	123	[r] 125	[r] 44	[e] 28
Brazil	[2] 3,319	[2] 2,170	[2] 1,566	[r] [2] 1,227	[3] 877
Congo (Kinshasa)	304	235	136	21	[e] 21
India (U.S. imports)	150	----	----	1,507	500
Kenya	----	----	1	----	----
Malagasy Republic	743	453	234	22	[e] 22
Mozambique	627	613	451	[r] 202	[3] 71
Portugal	19	2	20	[r] 44	[e] 44
Rhodesia, Southern	559	249	182	[r] [3] 101	[3] 72
Rwanda	394	282	328	[r] [3] 166	147
South Africa, Republic of	360	425	151	53	[e] 20
South-West Africa	159	61	8	57	[e] 25
Swaziland	----	2	----	----	----
Sweden (U.S. imports)	26	----	49	----	----
Uganda	1,116	419	434	212	[3] 249
U.S.S.R. [e] [4]	1,000	1,100	1,100	1,100	1,200
United States (mine shipments):					
Cobbed beryl	218	1	[5] W	[5] W	[5] W
Other lower grade beryllium ore	760	750	----	----	----
World total [e]	11,000	7,700	5,200	[r] 4,900	3,600

e Estimate. p Preliminary. r Revised. W Withheld to avoid disclosing individual company confidential data.

[1] Compiled mostly from data available April 1967.

[2] Exports.

[3] U.S. imports.

[4] Cobbed concentrates at about 11 percent BeO.

[5] U.S. output was very small and is not included in world total.

Bismuth

Table 1.—Salient bismuth statistics

(Pounds)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Consumption	1,492,327	1,909,548	2,175,038	2,160,100	2,931,673	3,199,321
Exports [1]	295,531	350,763	36,035	61,299	341,868	89,382
Imports, general	781,575	816,190	1,123,466	1,238,252	1,378,147	1,681,472
Price: New York, average ton lots	$2.25	$2.25	$2.25	$2.30	$3.43	$4.00
Stocks Dec. 31: Consumer and dealer	415,840	447,800	428,100	656,900	506,300	651,800
World: Production	5,120,000	6,700,000	6,750,000	7,400,000	8,600,000	8,800,000

[1] Includes bismuth, bismuth alloys, and waste and scrap.

Table 2.—Bismuth metal consumed in the United States, by uses

(Pounds)

Use	1965	1966
Fusible alloys [1]	783,283	913,395
Other alloys	573,844	546,537
Pharmaceuticals [2]	1,523,904	1,719,029
Experimental uses	15,275	9,552
Other uses	35,367	10,708
Total	2,931,673	3,199,321

[1] Includes 166,906 pounds of bismuth contained in bismuth-lead bullion used directly in the production of an end product in 1965 and 191,536 pounds in 1966.

[2] Includes industrial and laboratory chemicals.

Table 3.—U.S. exports of bismuth [1]

Year	Gross weight (pounds)	Value
1957–61 (average)	295,531	$382,754
1962	350,763	673,905
1963	36,035	48,379
1964	61,299	101,789
1965	341,868	939,570
1966	89,382	225,617

[1] Includes bismuth, bismuth alloys, and waste and scrap.

Table 4.—U.S. general imports of metallic bismuth, by countries

(Pounds)

Country	1965	1966
North America:		
Canada	50,424	36,386
Mexico	274,356	348,087
Total	324,780	384,473
South America: Peru	1,019,654	1,182,047
Europe:		
Belgium-Luxembourg	------	4,489
Netherlands	5,048	------
Portugal	4,409	------
United Kingdom	------	4,480
Yugoslavia	22,045	30,865
Total	31,502	39,834
Asia:		
Japan	2,211	59,605
Korea, South	------	15,513
Total	2,211	75,118
Grand total	1,378,147	1,681,472

Table 5.—World production of bismuth, by countries [1]

(Pounds)

Country	1962	1963	1964	1965	1966 [p] [2]
Argentina (in ore)	7,100	1,345	9	------	------
Australia (in ore)	97	------	------	------	------
Bolivia	669,987	560,872	599,365	[r] 654,766	822,316
Canada (metal) [3]	425,102	359,125	399,958	[r] 428,759	754,872
China (in ore) [e]	660,000	660,000	660,000	660,000	660,000
France (in ore)	138,890	[r] 149,900	[r] 152,100	[r] 139,990	[e] 140,000
Japan (metal)	572,841	823,314	1,115,611	[r] 1,347,183	[e] 1,360,000
Korea, South (in ore)	353,000	349,000	[r] [e] 330,000	[r] [e] 265,000	[e] 220,000
Mexico [3]	780,000	941,400	1,040,500	[r] 1,067,000	[e] 1,060,000
Mozambique	13,889	24,317	14,462	[r] 10,271	[e] 10,400
Peru [3]	1,084,227	1,244,367	[r] 1,628,514	[r] 1,665,031	1,642,427
South-West Africa (in ore)	154	5,115	3,131	[r] 388	[e] 7
South Africa, Republic of (in ore)	130	2,619	161	[r] 240	[e] 290
Spain (metal)	18,799	25,836	[r] 4,184	[r] [e] 4,200	[e] 4,200
Sweden [e]	155,000	155,000	150,000	[r] 77,200	77,200
Uganda	110	65	------	------	------
Yugoslavia (metal)	199,765	194,657	184,660	[r] 194,638	229,278
World total [e]	6,700,000	6,750,000	7,400,000	8,600,000	8,800,000

e Estimate. p Preliminary. r Revised.

[1] United States figure withheld to avoid disclosing individual company confidential data; included in world total. Bismuth is believed to be produced in Brazil, East Germany, and U.S.S.R. Production figures are not available for these countries, but estimates are included in the world total. Metallic bismuth is produced in West Germany presumably from imported raw materials, as follows: 1962, 288,800 pounds; 1963, 277,300; 1964, 385,800; 1965, 275,600 (estimate); and 1966, not available.

[2] Compiled mostly from data available March 1967.

[3] Bismuth content of refined metal and bullion plus recoverable content of concentrates exported.

Cadmium

Table 1.—Salient cadmium statistics

(Thousand pounds)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production [1]	9,975	11,137	9,990	10,458	9,671	10,460
Shipments by producers [2]	10,207	12,057	10,124	9,689	8,128	11,792
Value thousands	$13,182	$18,481	$21,880	$27,412	$19,153	$26,771
Imports for consumption, metal	1,249	1,117	991	1,104	2,121	3,358
Exports	1,065	717	1,313	1,439	73	379
Consumption	9,641	12,146	11,482	9,364	10,431	14,780
Price: Average [3] per pound	$1.56	$1.72	$2.26	$3.00	$2.58	$2.42
World: Production	23,000	25,800	26,000	28,250	26,100	26,600

[1] Primary and secondary cadmium metal. Includes equivalent metal content of cadmium sponge used directly in production of compounds.

[2] Includes metal consumed at producer plants.

[3] Average quoted price for cadmium sticks and bars in lots of 1 to 5 tons.

Table 2.—Cadmium oxide and cadmium sulfide produced in the United States

(Thousand pounds)

Year	Oxide: Gross weight	Oxide: Cadmium content	Sulfide[1]: Gross weight	Sulfide[1]: Cadmium content
1957–61 (average)	W	W	3,324	1,093
1962	1,694	1,481	4,250	1,329
1963	W	W	4,560	1,542
1964	W	W	4,514	1,531
1965	W	W	4,666	1,575
1966	W	W	5,644	2,267

W Withheld to avoid disclosing individual company confidential data.

[1] Includes cadmium lithopone and cadmium sulfoselenide.

Table 3.—Industry stocks, December 31

(Thousand pounds)

	1965: Cadmium metal	1965: Cadmium in compounds	1966: Cadmium metal	1966: Cadmium in compounds
Metal producers	3,066	W	1,735	W
Compound manufacturers	177	r 586	536	963
Distributors	r 192	r 38	222	46
Total	r 3,435	r 624	2,493	1,009

r Revised.

W Withheld to avoid disclosing individual company confidential data; included with "Compound manufacturers."

Table 4.—Prices quoted for cadmium in the United States in 1966

(Per pound)

Date	Producer to consumer: 1-ton lots	Producer to consumer: Less than 1-ton lots	Distributor to consumer
January 1	$2.40	$2.45	$2.40–$2.45
June 6	2.40	2.45	2.40– 2.50
October 17	2.40	2.45	2.45– 2.65
November 22 to December 31	2.55	2.60	2.65– 2.80

Table 5.—U.S. exports of cadmium metal and cadmium in alloys, dross, flue dust, residues, and scrap

(Thousand pounds and thousand dollars)

Year	Quantity	Value	Year	Quantity	Value
1957–61 (average)	1,065	$1,370	1964[1]	1,439	$4,033
1962	717	1,139	1965[1]	73	195
1963	1,313	3,070	1966[1]	379	795

[1] Not strictly comparable with data for preceding years.

Table 6.—U.S. imports of cadmium metal and cadmium in flue dust, by countries

(Thousand pounds and thousand dollars)

Country	General imports [1]				Imports for consumption [2]			
	1965		1966		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
CADMIUM METAL								
North America:								
Canada	615	$1,129	907	$1,773	615	$1,129	907	$1,773
Mexico	12	37	15	31	12	37	16	37
Total	627	1,166	922	1,804	627	1,166	923	1,810
South America:								
Argentina	----	----	----	----	3	6	----	----
Peru	337	865	352	793	337	865	352	793
Total	337	865	352	793	340	871	352	793
Europe:								
Austria	----	----	48	96	----	----	48	96
Belgium-Luxembourg	60	153	6	12	60	153	6	12
France	9	18	22	42	9	18	22	42
Germany, West	46	114	22	42	46	114	22	42
Italy	22	52	----	----	22	52	----	----
Netherlands	56	138	6	12	56	138	6	12
Poland-Danzig	7	29	56	112	7	29	41	80
United Kingdom	79	150	295	590	79	r 150	295	590
U.S.S.R.	53	103	----	----	53	103	----	----
Total	332	757	455	906	332	r 757	440	874
Africa:								
Angola (Portuguese)	35	75	----	----	35	75	----	----
Congo (Kinshasa)	287	681	154	310	287	681	154	310
Mozambique	8	17	10	20	8	17	10	20
South Africa, Republic of	----	----	7	17	----	----	7	17
Total	330	773	171	347	330	773	171	347
Asia: Japan	264	540	1,085	2,205	288	609	1,048	2,129
Oceania: Australia	204	492	424	860	204	492	424	860
Total cadmium metal	2,094	4,593	3,409	6,915	2,121	4,668	3,358	6,813
FLUE DUST (CADMIUM CONTENT)								
North America: Mexico	1,531	$1,521	1,181	$ 989	1,531	$1,521	1,181	$ 989
Grand total	3,625	6,114	4,590	7,904	3,652	r 6,189	4,539	7,802

r Revised.

[1] Comprises cadmium imported for immediate consumption plus material entering bonded warehouses.

[2] Comprises cadmium imported for immediate consumption plus material withdrawn from bonded warehouses.

Table 7.—World smelter production of cadmium by countries [1] [2]

(Thousand pounds)

Country	1962	1963	1964	1965	1966 [p] [3]
North America:					
Canada [4]	2,605	2,475	2,773	[r] 1,756	2,006
Mexico (exports)	63	326	260	[r] 58	[e] 58
United States	11,137	9,990	10,458	9,671	10,460
South America: Peru	285	382	435	[r] 473	[e] 454
Europe:					
Austria	49	41	43	[r] 46	[e] 45
Belgium (exports)	1,854	1,943	[r] 1,857	[r] 849	322
France	567	655	[r] 1,085	[r] 937	1,048
Germany					
East [e]	7	11	22	22	22
West	560	492	705	723	785
Italy	536	622	597	[r] 602	540
Netherlands [e]	88	88	88	88	88
Norway	254	243	254	[r] 172	161
Poland [e]	880	930	930	[r] 940	950
Spain	133	119	[r] 133	[e] 110	[e] 101
U.S.S.R. [e]	3,500	3,700	3,900	4,200	4,200
United Kingdom	237	247	435	[r] 486	403
Yugoslavia [e]	88	88	90	90	90
Africa					
Congo (Kinshasa) [r] [5]	214	254	363	278	328
South-west Africa	----	----	----	73	291
Zambia	37	33	32	[r] 40	27
Asia: Japan	1,948	2,231	2,678	[r] 3,262	[e] 3,307
Oceania: Australia	791	1,089	1,107	[r] 1,182	924
World Total [e] [r]	25,800	26,000	28,250	26,100	26,600

e Estimate. p Preliminary. r Revised.

[1] Data derived in part from bulletins of the World Non-Ferrous Metal Statistics (London) and annual issues of Metal Statistics (Metallgesellschaft).

[2] No estimate included for Bulgaria, but it is reported to be producing cadmium.

[3] Compiled mostly from data available April 1967.

[4] Refined metal from domestic ores plus cadmium content of some exported ores and concentrates.

[5] Production of Metalkat.

Chromium

Table 1.—Salient chromite statistics

(Thousand short tons)

	1957-61 (average)	1962	1963	1964	1965	1966
United States:						
Exports	5	3	10	6	7	19
Reexports	28	51	64	32	95	178
Imports for consumption	1,563	1,446	1,391	1,428	1,518	1,864
Consumption	1,348	1,131	1,187	1,451	1,584	1,461
Stocks Dec. 31: Consumer	1,659	1,700	1,583	1,287	1,111	1,305
World: Production [1]	4,635	4,860	4,370	4,720	5,410	5,450

[1] Incorporates some revisions.

Table 2.—Consumption of chromite and tenor of ore used by primary consumer groups in the United States

(Thousand short tons)

Year	Metallurgical industry		Refractory industry		Chemical industry		Total	
	Gross weight	Average Cr_2O_3 (percent)	Gross weight	Average Cr_2O_3 (percent)	Gross weight	Average Cr_2O_3 (percent)	Gross weight	Average Cr_2O_3 (percent)
1957–61 (average)	816	46.7	378	34.9	154	45.3	1,348	43.2
1962	590	46.6	365	35.0	176	45.3	1,131	42.7
1963	632	48.7	368	34.6	187	45.1	1,187	43.8
1964	832	49.0	430	33.8	189	45.1	1,451	44.0
1965	907	49.8	[r] 460	[r] 34.7	[r] 217	45.0	[r] 1,584	[r] 44.8
1966	828	49.6	439	34.6	194	44.9	1,461	44.5

r Revised.

Table 3.—Production, shipments, and stocks of chromium ferroalloys and chromium metal in 1966

(Short tons)

Alloy	Production		Shipments	Producer stocks, Dec. 31
	Gross weight	Chromium content		
Low-carbon ferrochromium	124,111	87,492	125,157	12,864
High-carbon ferrochromium	177,045	123,954	180,673	16,729
Ferrochromium silicon	93,894	39,456	93,179	9,040
Other [1]	21,353	17,049	22,138	1,863
Total	416,403	267,951	421,147	40,496

[1] Includes chromium briquets, chromium metal, exothermic chromium additives, and other miscellaneous chromium alloys.

Table 4.—Consumption of chromium ferroalloys and chromium metal in the United States, in 1966 by major end uses

(Short tons)

Use	Low-carbon ferro-chromium	High carbon ferro-chromium	Ferro-chromium silicon	Exothermic ferro-chromium silicon	Chromium briquets	Other [1]	Total
Stainless steels	137,773	84,185	73,703	2	626	169	296,458
High-speed steels	775	872	37	----	----	23	1,707
Other tool steels	831	1,955	106	----	----	24	2,916
Other alloy steels [2]	17,810	46,535	6,930	6,049	649	9,847	87,820
Gray and malleable iron	1,000	6,154	32	6	270	1,111	8,573
High-temperature alloys	11,557	1,287	626	----	10	2,569	16,049
Nickel-base alloys	471	127	3	----	----	111	712
Other nonferrous alloys [3]	857	1,738	2	----	63	1,126	3,786
Total	171,074	142,853	81,439	6,057	1,618	14,980	418,021
Chromium content	117,724	93,140	33,750	2,538	820	8,731	256,703

[1] Includes exothermic high- and low-carbon ferrochromium, chromium metal, and other chromium alloys.

[2] Includes quantities that were believed used in producing high-speed and other tool steels and stainless steels because some firms failed to specify individual uses.

[3] Includes cutting and wear resistant alloys, hard-facing alloys welding rods, electrical-resistance alloys and other nonferrous alloys.

Table 5.—Consumers' stock of chromite, Dec. 31

(Thousand short tons)

Industry	1962	1963	1964	1965	1966
Metallurgical	771	686	509	443	462
Refractory	764	723	600	r 526	578
Chemical	165	174	178	142	265
Total	1,700	1,583	1,287	r 1,111	1,305

r Revised.

Table 6.—Consumers' stocks of chromium ferroalloys and chromium metal, Dec. 31

(Short tons)

	1962	1963	1964	1965	1966
Low-carbon ferrochromium	5,531	7,293	12,219	13,630	16,585
High-carbon ferrochromium	5,684	6,049	13,862	14,707	12,606
Ferrochromium silicon	2,119	2,558	6,455	4,673	4,838
Exothermic ferrochromium silicon	729	610	775	987	885
Chromium briquets	409	276	328	378	347
Other (including chromium metal, exothermic high- and low-carbon ferrochromium, and other chromium alloys	1,330	1,477	1,675	1,779	2,114
Total	15,802	18,263	35,314	36,154	37,375

Table 7.—Price quotations for various grades of foreign chromite in 1966

Source	Cr_2O_3 (percent)	Cr/Fe ratio	Price per long ton [1], Jan. 1	Price per long ton [1], Dec. 31
South Africa, Republic of (Transvaal)	44	---	$20.00–$21.50	$18.00–$21.50
Southern Rhodesia	48–50	3:1	31.00– 35.00	31.00– 35.00
Turkey	48	3:1	29.50– 31.50	32.50– 33.50
U.S.S.R.	54–56	4:1	30.50– 33.00	30.50– 33.00

[1] Dry basis, subject to penalties if guarantees are not met, f.o.b. Atlantic ports.

Source: E&MJ Metal and Mineral Markets.

Table 8.—U.S. exports of chromite ore and concentrate

(Thousand short tons and thousand dollars)

Year	Exports		Reexports	
	Quantity	Value	Quantity	Value
1957–61 (average)	5	$259	28	$1,102
1962	3	108	51	2,033
1963	10	352	64	2,505
1964	6	241	32	1,256
1965	7	285	95	3,719
1966	19	740	173	7,119

Table 9.—U.S. imports for consumption of chromite, by grades and countries, in 1966

(Thousand short tons and thousand dollars)

Country	Not more than 40 percent chromic oxide (Cr_2O_3)			More than 40 percent but less than 46 percent chromic oxide (Cr_2O_3)			46 percent or more chromic oxide (Cr_2O_3)			Total		
	Quantity			Quantity			Quantity			Quantity		
	Gross weight	Cr_2O_3	Value	Gross weight	Cr_2O_3	Value	Gross weight	Cr_2O_3	Value	Gross weight	Cr_2O_3	Value
Europe: U.S.S.R.	----	----	----	21	9	$ 458	281	155	$ 5,866	302	164	$ 6,324
Africa:												
Mozambique	1	1	$ 13	35	15	327	5	2	47	41	18	387
Rhodesia, Southern	6	2	12	32	14	746	144	73	2,994	181	89	3,752
South Africa, Republic of	19	7	244	594	263	6,853	184	91	3,497	797	361	10,594
Zambia	----	----	----	3	1	47	----	----	----	3	1	47
Total	26	10	269	664	293	7,973	333	166	6,538	1,022	469	14,780
Asia:												
India	----	----	----	----	----	----	1	1	30	1	1	30
Iran	----	----	----	----	----	----	21	10	335	21	10	335
Philippines	332	112	6,215	----	----	----	----	----	----	332	112	6,215
Turkey	40	15	489	112	54	1,577	33	16	629	186	85	2,695
Total	372	127	6,704	112	54	1,577	55	27	994	540	208	9,275
Grand total	398	137	6,973	797	356	10,008	669	348	13,398	1,864	841	30,379

[1] Probably Southern Rhodesia.

Table 10.—U.S. imports for consumption of ferrochromium, by countries

(Thousand short tons and thousand dollars)

Year and country	Low-carbon ferrochromium (less than 3 percent carbon)			High-carbon ferochromium (3 percent or more carbon)		
	Quantity		Value	Quantity		Value
	Gross weight	Chromium content		Gross weight	Chromium content	
1965:						
North America: Canada	----	----	----	(1)	(1)	$ 8
Europe:						
France	(1)	(1)	$ 42	(1)	(1)	11
Germany, West	2	1	393	1	1	114
Italy	1	1	174	2	1	277
Norway	5	3	1,189	(1)	(1)	49
Sweden	4	3	1,200	----	----	----
Yugoslavia	(1)	(1)	86	----	----	----
Total	12	8	3,084	3	2	451
Africa: South Africa, Republic of [2]	r 27	r 18	r 6,468	(1)	(1)	88
Asia:						
Japan	9	6	2,319	2	1	308
Turkey	2	1	510	----	----	----
Total	11	7	2,829	2	1	308
Grand total	50	33	12,381	5	3	855
1966:						
North America: Canada	2	1	380	----	----	----
Europe:						
France	3	2	552	(1)	(1)	6
Germany, West	4	3	1,023	(1)	(1)	55
Italy	(1)	(1)	1	1	1	178
Norway	5	3	1,365	1	1	136
Sweden	4	3	1,269	----	----	----
United Kingdom	----	----	----	2	1	291
Yugoslavia	(1)	(1)	24	----	----	----
Total	16	11	4,234	4	3	666
Africa:						
Rhodesia, Southern	5	4	1,340	----	----	----
South Africa, Republic of	39	26	9,726	11	7	1,328
Zambia	(1)	(1)	34	----	----	----
Total	44	30	11,100	11	7	1,328
Asia:						
Japan	8	5	2,074	9	6	1,342
Turkey	4	3	952	----	----	----
Total	12	8	3,026	9	6	1,342
Grand total	74	50	18,740	24	16	3,336

r Revised.

[1] Less than ½ unit.

[2] Mozambique revised to none.

Table 11.—World production of chromite by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Cuba	[e] 39,000	[r] 62,000	[r] 36,000	[r] [e] 33,000	[e] 33,000
Guatemala	22	----------	----------	----------	----------
South America:					
Brazil	27,380	[r] [3] 18,798	[r] [3] 10,406	[r] [3] 18,695	[3] 16,495
Colombia	154	121	441	287	----------
Europe:					
Albania	277,007	323,657	[r] 338,213	[e] 347,000	[e] 350,000
Greece	[r] 62,002	[r] 56,415	[e] [r] 66,000	[e] [r] 56,000	[e] 44,000
U.S.S.R. [e]	1,270,000	1,355,000	1,435,000	1,565,000	1,600,000
Yugoslavia	106,974	103,364	97,398	88,021	59,757
Africa:					
Malagasy Republic	20,342	12,346	12,974	2,628	----------
Rhodesia, Southern	507,685	412,392	493,368	[e] 624,500	[e] 550,000
Sierra Leone	12,621	3,067	----------	----------	----------
South Africa, Republic of	1,006,173	873,212	936,468	1,038,498	1,169,488
Sudan	8,800	[e] 18,700	18,700	[e] 33,000	[e] 19,000
Asia:					
Cyprus	7,207	5,411	[r] 3,300	5,501	11,532
India	73,467	[r] 71,696	[r] 38,547	65,777	85,601
Iran [e]	99,000	110,000	132,000	165,000	193,000
Japan	64,024	48,205	48,452	[r] 46,114	36,192
Pakistan	23,671	16,023	14,884	[r] 15,972	29,924
Philippines	585,643	506,094	515,969	611,288	617,426
Turkey	580,964	312,817	454,907	625,078	[4] 583,190
Oceania:					
Australia	413	180	80	----------	----------
New Caledonia	17,036	----------	----------	----------	----------
World total [e]	[r] 4,860,000	[r] 4,370,000	[r] 4,720,000	[r] 5,410,000	5,450,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] In addition to countries listed, Bulgaria, North Viet-Nam, and Rumania produce chromite, but data on output are not available; estimates by author of chapter included in total.

[2] Compiled from data available May 1967.

[3] Bahia only.

[4] Exports.

Cobalt

Table 1.—Salient cobalt statistics

(Thousand pounds of contained cobalt)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Consumption	9,025	11,268	10,529	10,650	13,595	14,205
Imports for consumption	15,288	12,433	10,522	12,443	15,408	18,823
Stocks, Dec. 31: Consumer	1,383	1,479	1,099	1,420	1,590	1,996
Price: Metal ____ per pound	$2.60–$1.50	$1.50	$1.50	$1.50	$1.65	$1.65
World: Production	62,200	37,800	32,400	35,400	38,200	44,200

Table 2.—Cobalt materials consumed by refiners or processors in the United States

(Thousand pounds of contained cobalt)

Form[1]	1957–61 (average)	1962	1963	1964	1965	1966
Alloy and concentrate	3,393	721	1,075	1,174	1,188	1,214
Metal	1,007	1,255	1,339	1,392	1,669	1,699
Hydrate	39	17	15	21	32	35
Other	123	51	6	9	3	6

[1] Total consumption is not shown because some metal, hydrate, and carbonate originated from alloy and concentrate.

Table 3.—Cobalt products[1] produced and shipped by refiners and processors in the United States

(Thousand pounds)

Product	1965				1966			
	Production		Shipments		Production		Shipments	
	Gross weight	Cobalt content	Gross weight	Cobalt content	Gross weight	Cobalt content	Gross weight	Cobalt content
Oxide	458	320	438	306	478	334	499	349
Hydrate	785	341	811	341	584	325	538	303
Salts:								
Acetate	407	99	421	102	597	97	360	87
Carbonate	570	250	537	235	598	270	633	282
Sulfate	697	131	842	162	562	124	509	113
Other	372	85	370	83	445	100	397	90
Driers	11,842	746	11,792	747	11,806	761	11,820	755
Total	15,131	1,972	15,211	1,976	15,070	2,011	14,756	1,979

[1] Figure on metal withheld to avoid disclosing individual company confidential data.

Table 4.—Cobalt consumed in the United States, by uses

(Thousand pounds of contained cobalt)

Use	1957–61 (average)	1962	1963	1964	1965	1966
Metallic:						
High-speed steel	182	343	404	305	304	411
Other tool steel	408	64	138	154	113	175
Other alloy steel		546	697	563	807	847
Permanent magnet alloys	2,618	2,867	2,352	2,210	2,736	2,698
Cutting and wear-resisting materials	216	316	275	337	414	360
High-temperature high-strength alloys	2,350	3,015	2,453	2,461	3,261	3,641
Alloy hard-facing rods and materials	453	650	607	801	1,055	991
Cemented carbides	271	610	409	431	530	543
Nonferrous alloys	510	128	158	326	330	356
Other [1]		582	426	427	892	1,342
Total	7,008	9,121	7,919	8,015	10,442	11,364
Nonmetallic (exclusive of salts and driers):						
Ground-coat frit	493	533	580	599	535	456
Pigments	208	168	222	209	259	185
Other	239	474	606	548	684	579
Total	940	1,175	1,408	1,356	1,478	1,220
Salts and driers: Lacquers, varnishes, paints, inks, pigments, enamels, glazes, feed, electroplating, etc. (estimate)	1,077	972	1,202	1,279	1,675	1,621
Grand total	9,025	11,268	10,529	10,650	13,595	14,205

[1] Includes unspecified end uses.

Table 5.—Cobalt consumed in the United States, by forms

(Thousand pounds of contained cobalt)

Form	1957–61 (average)	1962	1963	1964	1965	1966
Metal	6,860	9,091	8,146	8,265	10,872	11,768
Oxide	809	998	935	958	961	768
Purchased scrap	279	207	246	148	87	48
Salts and driers	1,077	972	1,202	1,279	1,675	1,621
Total	9,025	11,268	10,529	10,650	13,595	14,205

Table 6.—U.S. imports for consumption of cobalt metal and oxide, by countries

(Thousand pounds)

Country	Metal		Oxide (gross weight)	
	1965	1966	1965	1966
Belgium-Luxembourg	4,099	4,263	897	1,233
Canada	558	879	50	46
Congo (Kinshasa)	5,770	9,710	----	----
France	1,129	905	----	----
Germany, West	1,051	684	----	----
Ireland	(1)	----	----	----
Italy	----	18	----	----
Japan	36	5	----	(1)
Netherlands	117	58	----	----
Norway	1,939	1,159	----	----
United Kingdom	147	190	----	----
Total	14,846	17,871	947	1,279

[1] Less than ½ unit.

Table 7.—U.S. imports for consumption of cobalt, by classes

(Thousand pounds and thousand dollars)

Year	Metal		Oxide		Salts and compounds		Total [1]	
	Gross weight	Value	Gross weight	Value	Gross weight	Value	Gross weight	Cobalt content (estimated)
1957–61 (average)	[2] 14,327	$25,796	1,036	$1,201	253	$124	17,468	15,288
1962	11,809	17,119	978	943	120	47	12,907	12,433
1963	10,322	14,677	468	451	94	45	10,913	10,522
1964	11,333	16,526	1,514	1,422	94	43	12,941	12,443
1965	14,846	23,132	947	1,011	[r] 186	[r] 179	[r] 15,979	15,408
1966	17,871	27,734	1,279	1,411	150	81	19,300	18,823

[r] Revised.

[1] Includes imports of white alloy (1957–61) and ores and concentrates (1957–61, 1962 and 1963).

[2] Includes scrap.

Table 8.—World production of cobalt by countries [1]

(Short tons of contained cobalt)

Country	1962	1963	1964	1965	1966 [p] [2]
Australia (cobalt in cobalt oxide)	17	19	19	20	20
Canada [3]	1,741	1,512	1,592	[r] 1,824	1,714
Congo (Kinshasa) (recoverable cobalt)	10,674	8,131	8,461	[r] 9,246	12,453
Cuba (recoverable cobalt from sulfide) [e]	181	[r] 520	[r] 770	[r] 880	880
Finland [4]	2,318	2,176	1,856	1,646	[e] 1,500
Morocco (content of concentrate)	1,583	1,511	1,850	2,019	2,198
U.S.S.R. (metal) [e]	1,200	1,300	1,300	1,400	1,400
Zambia (cathode metal and other products)	951	778	[r] 1,571	1,702	1,670
World total [e]	[r] 18,900	[r] 16,200	[r] 17,700	[r] 19,100	22,100

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Cobalt is also produced in Bulgaria, East Germany, Poland, and Uganda but production data are not available, and no estimates for these countries are included in the world total. U.S. figure withheld to avoid disclosing individual company data, included in world total.

[2] Compiled from data available June 1967.

[3] Cobalt in all forms. Excludes the cobalt content of nickel-oxide sinter shipped to the United Kingdom by International Nickel, but includes the cobalt content of Falconbridge shipments of nickel-copper matte to Norway.

[4] Content of cupriferous pyrites.

Table 9.—Congo (Kinshasa): Cobalt production

(Short tons)

Product	1963	1964	1965	1966
Electrolytic cobalt cathodes	2,200	2,239	1,450	2,151
Electrolytic cobalt granules	5,321	5,664	3,829	5,682
Electrolytic cobalt commercial-grade cathodes	----	558	3,940	4,620
Cobalt in cobalt-copper alloy	610	----	----	----
Cobalt in various products	----	----	27	----
Total	8,131	8,461	9,246	12,453

Columbium and Tantalum

Table 1.—Salient columbium-tantalum statistics

(Pounds)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Consumption:						
Columbium metal contained in all raw materials consumed (Cb content)	1,295,200	2,844,000	2,054,000	2,758,000	2,749,152	3,873,237
Tantalum metal contained in all raw materials consumed (Ta content)	579,200	946,000	502,000	510,000	774,785	1,393,361
Ferrocolumbium and ferrotantalum-columbium (Cb-Ta content)	664,211	1,397,638	1,345,789	1,478,770	2,198,744	2,696,803
Production of primary products:						
Columbium metal (Cb content)	W	128,000	104,000	94,609	W	W
Tantalum metal (Ta content)	[1] 245,600	514,000	418,000	448,302	712,137	1,063,633
Ferrocolumbium and ferrotantalum-columbium (Cb-Ta content)	766,404	1,573,915	1,575,943	820,000	1,960,920	3,664,000
Imports for consumption:						
Columbium mineral concentrate (gross weight)	3,425,993	5,050,888	5,909,512	4,600,800	4,891,786	9,278,000
Tantalum mineral concentrate (gross weight)	846,156	1,211,757	944,459	980,702	1,196,487	2,143,000
Columbium metal and columbium-bearing alloys (Cb content)	NA	[r] 9,489	[r] 1,427	3,792	[r] 9,817	4,431
Tantalum metal and tantalum-bearing alloys (Ta content)		[r] 1,788	[r] 1,597	3,491	[r] 26,162	47,748
Exports:						
Columbium ore and concentrate (gross weight)	68,158	21,330	46,887	343,433	NA	NA
Tantalum ore and concentrate (gross weight)	9,869	36,322	56,010	199,793	283,629	163,000
Columbium metal, compounds, and alloys (gross weight)	NA	16,827	14,276	4,674	4,217	7,000
Tantalum metal, compounds, and alloys (gross weight)		17,934	44,390	32,489	20,780	35,000
Tantalum and tantalum alloy powder (Ta content)	4,103	7,445	14,146	32,217	24,662	51,000
Free world: Production of columbium-tantalum concentrates (gross weight)	7,151,000	9,595,000	9,780,000	11,675,000	14,545,000	27,065,000

[r] Revised. NA Not available.
W Withheld to avoid disclosing individual company confidential data.
[1] Average of 1958–61 only.

The following companies produced and/or processed the following:

Company	Location	Columbium	Ferrocolumbium	Ferrotantalum	Tantalum	Tantalum carbide
Fansteel Metallurgical Corp.	Muskogee, Okla.	X	--	--	X	--
General Electric Co.	Euclid, Ohio	--	--	--	X	--
Kawecki Chemical Co.	Boyertown, Pa.	X	X	X	X	X
Kennametal, Inc.	Latrobe, Pa.	X	--	--	X	X
Linde Division, Union Carbide Corp.	Indianapolis, Ind.	--	--	--	X	--
Mining and Metals Division, Union Carbide Corp.	Niagara Falls, N.Y.	X	X	X	--	--
Molybdenum Corp. of America	Washington, Pa.	X	X	X	--	--
National Research Corp.	Newton, Mass.	X	--	--	X	--
Reading Alloys Co., Inc.	Robesonia, Pa.	X	X	X	--	--
Shieldalloy Corp.	Newfield, N.J.	--	X	X	--	--
Stellite Division, Union Carbide Corp.	Kokomo, Ind.	X	--	--	X	X
Vanadium Corp. of America	Cambridge, Ohio Vancoram, Ohio Graham, W. Va.	X	X	X	--	--
Wah Chang Corp.	Albany, Oreg.	X	--	--	X	X

Table 2.—Consumption by end uses of ferrocolumbium and ferrotantalum-columbium in the United States

(Pounds of contained columbium plus tantalum)

Products	1965	1966
Stainless steels	601,247	567,307
Other alloy steels	974,999	1,181,467
Carbon steels	265,545	362,114
Tool steels [1]	1,268	6,013
Welding rods [2]	11,492	10,813
Gray and malleable castings	158	857
High-temperature alloys	313,043	537,370
Permanent-magnet alloys	5,222	4,512
Nickel-base alloys	11,468	16,684
Miscellaneous [3]	14,302	9,666
Total	2,198,744	2,696,803

[1] Includes high-speed steel.
[2] Includes hard facing alloys.
[3] Includes electrical resistance alloys, premixed powders, cemented carbides, capacitors, flame plating, high-nickel chromium alloy coatings, metal-to-glass seal materials, and unspecified alloy powders.

Table 3.—Average grade of concentrate received by U.S. consumers and dealers in 1966 by country of origin

(Percent)

Country	Columbite		Tantalite	
	Cb_2O_5	Ta_2O_5	Ta_2O_5	Cb_2O_5
Australia	--	----	--	--
Brazil [1]	54	0.1	38	18
Canada [2]	52	.23	--	--
Congo (Kinshasa)	--	----	37	24
Malaysia	55	15	24	46
Mozambique	55	25	55	11
Nigeria	67	7	40	40
Portugal	--	----	61	11
Rhodesia, Southern	--	----	53	9
South Africa, Republic of	--	----	37	1
Thailand	30	46	45	NA
Uganda	--	----	--	--

N.A. Not available.
[1] Material reported from Brazil as columbite actually represents pyrochlore.
[2] Pyrochlore concentrate.

Table 4.—U.S. exports of columbium and tantalum, by classes

(Thousand pounds and thousand dollars)

Class	1965		1966	
	Quantity	Value	Quantity	Value
Columbium and columbium alloys unwrought and waste and scrap	1	$20	4	$93
Columbium and columbium alloys, wrought	3	157	3	156
Tantalum ores and concentrates	284	698	163	453
Tantalum and tantalum alloys, wrought	10	843	13	1,096
Tantalum metals and alloys in crude form and scrap	11	115	22	249
Tantalum and tantalum alloy powder	25	757	51	1,564

Table 5.—Receipts of microlite and tin slags reported by consumers

(Thousand pounds)

Material	1964 [1]			1965			1966		
	Gross weight	Cb_2O_5 content	Ta_2O_5 content	Gross weight	Cb_2O_5 content	Ta_2O_5 content	Gross weight	Cb_2O_5 content	Ta_2O_5 content
Microlite	183	3	128	131	3	91	9	(2)	6
Tin slags	2,516	280	155	8,822	564	429	10,220	889	560

[1] Data known to be incomplete.
[2] Less than ½ unit.

Table 6.—U.S. imports for consumption of columbium-mineral concentrates by countries

(Thousand pounds)

Country	1957–61 (average)	1962	1963	1964	1965	1966
North America:						
Canada	10	1,510	1,882	1,940	1,861	1,524
Mexico	----	----	----	----	25	----
Total	10	1,510	1,882	1,940	1,886	1,524
South America:						
Argentina	1	----	----	----	----	----
Brazil	99	96	1,785	35	675	4,995
Peru	----	----	----	----	----	14
Total	100	96	1,785	35	675	5,009
Europe:						
Belgium-Luxembourg [1]	----	33	34	6	----	12
Denmark [1]	----	----	----	56	----	----
Finland	----	----	2	3	----	2
Germany, West	13	2	2	----	----	----
Netherlands	10	29	20	----	8	----
Norway	233	662	347	----	----	----
Portugal	47	43	4	21	----	28
Spain	([2])	----	----	15	----	10
Switzerland	----	----	----	----	----	22
United Kingdom	10	56	----	34	----	----
Total	313	825	409	135	8	74
Africa:						
British East Africa	10	----	23	----	----	----
Uganda				9	18	15
Kenya				----	----	7
Congo (Kinshasa)	455	56	163	----	44	128
Burundi and Rwanda				8	34	----
Ivory Coast	----	----	----	----	----	15
Malagasy Republic	10	8	----	22	----	----
Mozambique	95	25	74	13	32	----
Nigeria	2,107	2,388	1,301	2,312	2,112	2,421
Rhodesia, Southern, and Malawi	5	7	1	----	----	----
South Africa, Republic of	24	5	10	56	----	11
Western Equatorial Africa	----	11	----	----	----	----
Total	2,706	2,500	1,572	2,420	2,240	2,597
Asia:						
Malaysia	293	120	262	71	83	74
Thailand	3	----	----	----	----	----
Total	296	120	262	71	83	74
Oceania: Australia	1	----	----	----	----	----
Grand total:						
Pounds (thousands)	3,426	5,051	5,910	4,601	4,892	9,278
Value (thousands)	$2,806	$3,419	$3,144	$2,277	$2,712	$5,678

[1] Presumably country of transshipment rather than original source.

[2] Less than ½ unit.

Table 7.—U.S. imports for consumption of tantalum-mineral concentrates by countries

(Thousand pounds)

Country	1957–61 (average)	1962	1963	1964	1965	1966
South America:						
Argentina	3	4	4	----	----	10
Brazil	181	195	241	142	281	287
French Guiana	1	----	5	4	1	1
Guyana	----	----	----	1	----	----
Surinam	----	----	----	----	15	----
Uruguay	----	----	----	----	----	2
Total	185	199	250	147	297	300
Europe:						
Belgium-Luxembourg [1]	18	32	2	----	55	27
France	----	----	----	----	12	----
Germany, West	27	11	----	----	----	109
Netherlands	7	----	5	120	82	166
Portugal	26	96	73	32	48	67
Spain	3	3	----	----	13	13
Sweden	([2])	----	----	----	----	----
Total	81	142	80	152	210	382
Africa:						
British East Africa	8	10	8	----	----	----
Kenya				6	----	27
Uganda				----	5	7
Congo (Kinshasa)	305	228	147	101	160	993
Burundi and Rwanda				2	15	20
Malagasy Republic	13	12	52	16	8	1
Mozambique	110	351	156	277	276	175
Nigeria	46	49	65	84	36	40
Rhodesia, Southern	43	99	94	16	8	16
Malawi						----
South Africa, Repulbic of	19	9	32	4	12	8
Western Equatorial Africa	----	26	----	----	----	----
Central African Republic				([2])	----	----
Western Portuguese Africa	----	3	7	111	7	20
Total	544	787	561	617	527	1,307
Asia:						
Indonesia	----	----	----	----	20	----
Japan	----	4	----	1	6	----
Malaysia	21	57	11	----	97	36
Thailand	1	6	14	47	27	89
Total	22	67	25	48	150	125
Oceania: Australia	14	17	28	17	12	29
Grand total:						
Pounds (thousands)	846	1,212	944	981	1,196	2,143
Value (thousands)	$1,418	$3,527	$2,411	$1,606	$2,150	$4,782

[1] Presumably country of transshipment rather than original source.
[2] Less than ½ unit.

Table 8.—Free world production of columbium and tantalum concentrates (gross weight)[1] by countries

(Pounds)

Country	1962		1963		1964		1965		1966 p [2]	
	Columbium	Tantalum	Columbium	Tantalum	Columbium	Tantalum	Columbium	Tantalum	Columbium	Tantalum
North America: Canada [3]	1,839,319	---------	2,941,303	---------	4,150,388	---------	4,541,745	---------	5,570,000	---------
South America:										
Argentina [4]	---------	3,637	---------	4,519	---------		---------		---------	10,000
Brazil:										
Columbium-tantalum	[5] 38,164	[5] 322,804	[5] 42,767	[5] 231,000	[5] 24,643	[5] 180,777	r [5] 88,318	r [5] 364,469	[4] 4,995,000	[4] 287,000
Pyrochlore concentrates	224,869	---------	---------	---------	712,086	---------	2,636,702	---------	9,500,000	---------
French Guiana	---------		5,031		2,205		1,874		e 1,000	
Europe:										
Norway	769,405	---------	782,633	---------	410,056	---------	r 330,690	---------	---------	---------
Portugal [4]	42,565	95,692	4,465	72,711	21,527	32,281	---------	47,772	28,000	67,000
Spain [4]	---------	2,645	---------		14,610	---------	---------	13,484	10,000	13,000
Africa:										
Burundi-Rwanda [4]	(6)		(6)		7,716	2,208	34,412	15,432	---------	20,000
Congo, (Kinshasa)[4] [6] [7]	55,846	228,185	163,437	147,257	---------	101,160	r 44,000	r 160,000	128,000	993,000
Malagasy Republic	20,720		37,920		7,940		8,820		---------	[4] 1,000
Mozambique [8]	346,517		337,927		r 415,700		[4] 32,187	[4] 276,391	---------	[4] 175,000
Nigeria	5,066,880	38,013	4,506,880	33,600	5,239,360	22,400	5,707,520	29,030	4,986,240	26,880
Rhodesia, Southern	---------	159,820	---------	151,000	---------	141,320	---------	e 62,960	---------	e 60,000
South Africa, Republic of	---------	8,000	---------	64,000	---------	14,000	---------	6,000	---------	4,000
South-West Africa	1,116	10,444	418	4,143	447	1,027	1,080	1,135	1,891	
Uganda	28,851		19,841		12,858		17,920		24,640	
Asia: Malaysia	246,400	---------	197,120	---------	125,440	---------	103,040	---------	152,320	---------
Oceania: Australia	43,097		30,089		32,636		21,660		10,550	
Free world total e	r 9,595,000		r 9,780,000		r 11,675,000		r 14,545,000		27,065,000	

e Estimate. p Preliminary. r Revised.

[1] Frequently the composition (Cb_2O_5-Ta_2O_5) of this concentrate lies in an intermediate position, neither Cb_2O_5 nor Ta_2O_5 being strongly predominant. In such cases the production figure has been centered.

[2] Compiled mostly from data available May 1967.

[3] Represents pyrochlore concentrate containing approximately 52 percent Cb_2O_5.

[4] U.S. imports.

[5] Exports.

[6] Burundi-Rwanda included in Republic of the Congo through 1963.

[7] In addition, tin-columbium-tantalum concentrate (averaging about 10 percent columbium-tantalum content) was produced, data not available.

[8] Includes microlite, in pounds, as follows: 1962, 115,080; 1963, 160,060; 1964, r 312,209; 1965, 187,356; 1966 data not available.

Copper

Table 1.—Salient copper statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Ore produced thousand short tons	125,194	150,217	146,450	155,200	173,286	186,966
Average yield of copper percent	0.76	0.75	0.74	0.73	0.70	0.67
Primary (new) copper produced—						
From domestic ores, as reported by—						
Mines short tons	1,027,272	1,228,421	1,213,166	1,246,780	1,351,734	1,429,152
Value thousands	$613,686	$756,707	$747,310	$812,901	$957,028	$1,033,850
Smelters short tons	1,035,726	1,282,126	1,258,126	1,301,115	1,402,806	1,429,863
Percent of world total	23	24	23	23	23	22
Refineries short tons	1,030,179	1,214,146	1,219,342	1,259,852	1,335,660	1,353,087
From foreign ores, matte, etc., refinery reports short tons	364,623	397,584	377,009	396,543	376,133	357,897
Total new refined, domestic and foreign short tons	1,394,802	1,611,730	1,596,351	1,656,395	1,711,793	1,710,984
Secondary copper recovered from old scrap only short tons	433,468	415,674	421,843	473,521	513,436	534,860
Imports, general:						
Unmanufactured do	528,647	478,851	539,396	586,064	523,141	583,507
Refined do	142,879	98,820	119,219	139,974	137,443	162,602
Exports:						
Metallic copper do	409,227	366,585	344,960	381,432	379,498	319,314
Refined do	350,462	336,525	311,479	316,230	324,965	273,071
Stocks Dec. 31: Producers:						
Refined short tons	64,000	71,000	52,000	37,000	35,000	43,000
Blister and materials in solution short tons	256,000	246,000	252,000	246,000	246,000	270,000
Total do	320,000	317,000	304,000	283,000	281,000	313,000
Withdrawals (apparent) from total supply on domestic account:						
Primary copper short tons	1,193,000	1,352,000	1,423,000	1,495,000	1,526,000	1,593,000
Primary and old copper (old scrap only) short tons	1,626,000	1,768,000	1,845,000	1,969,000	2,039,000	2,128,000
Price: Weighted average cents per pound	29.8	30.8	30.8	32.6	35.4	36.2
World:						
Production:						
Mine short tons	4,240,000	5,085,000	5,200,000	5,345,000	5,590,000	5,855,000
Smelter do	4,470,000	5,410,000	5,535,000	5,790,000	6,100,000	6,440,000
Price: London, average cents per pound	28.30	29.33	29.25	43.88	58.52	69.04

Table 2.—Copper produced from domestic ores, by sources

(Short tons)

Year	Mine	Smelter	Refinery
1962	1,228,421	1,282,126	1,214,146
1963	1,213,166	1,258,126	1,219,342
1964	1,246,780	1,301,115	1,259,852
1965	1,351,734	1,402,806	1,335,660
1966	1,429,152	1,429,863	1,353,087

Table 3.—Copper ore and recoverable copper produced, by mining methods

(Percent)

Year	Open pit		Underground		Year	Open pit		Underground	
	Ore	Copper [1]	Ore	Copper [2]		Ore	Copper [1]	Ore	Copper [2]
1949	78	70	22	30	1958	76	71	24	29
1950	81	74	19	26	1959	79	74	21	26
1951	84	74	16	26	1960	80	75	20	25
1952	85	77	15	23	1961	80	74	20	26
1953	83	75	17	25	1962	81	75	19	25
1954	83	79	17	21	1963	81	74	19	26
1955	83	77	17	23	1964	82	75	18	25
1956	78	73	22	27	1965	84	77	16	23
1957	77	72	23	28	1966	85	80	15	20

[1] Includes copper from dump leaching.
[2] Includes copper from in-place leaching.

Table 4.—Mine production of recoverable copper in the United States, by months

(Short tons)

Month	1965	1966	Month	1965	1966
January	115,496	118,048	August	109,170	114,867
February	106,826	106,925	September	107,894	116,777
March	121,742	123,324	October	114,626	125,430
April	116,920	120,497	November	110,101	123,087
May	118,882	126,246	December	107,831	125,429
June	116,621	121,451			
July	105,625	107,071	Total	1,351,734	1,429,152

Table 5.—Mine production of recoverable copper in the United States, by States

(Short tons)

State	Production by years					
	1957–61 (average)	1962	1963	1964	1965	1966
Alaska	35	-----	-----	11	32	[1] 2,545
Arizona	511,530	644,242	660,977	690,988	708,377	739,569
California	965	1,162	916	1,035	1,165	1,078
Colorado	3,927	4,534	4,169	4,653	3,828	4,237
Idaho	7,001	3,861	4,172	4,666	5,140	4,961
Michigan	59,667	74,099	75,262	69,040	71,749	73,449
Missouri	1,333	2,752	1,816	2,059	2,331	3,913
Montana	88,815	94,021	79,762	103,806	115,489	128,061
Nevada	71,354	82,602	81,738	67,272	71,382	78,720
New Mexico	61,919	82,683	83,037	86,104	98,658	108,614
North Carolina	-----	(2)	(3)	-----	-----	-----
Oklahoma	-----	-----	-----	-----	[4] 282	(1)
Oregon	[5] 8	(2)	(3)	15	(4)	(1)
Pennsylvania [6]	7,807	6,108	4,434	3,614	4,354	3,178
South Dakota	(7)	-----	1	-----	-----	-----
Tennessee	11,077	14,298	13,717	13,889	14,823	15,410
Utah	200,668	218,018	203,095	199,588	259,138	265,383
Vermont	776	-----	-----	-----	-----	-----
Washington	389	41	[3] 70	35	30	34
Wyoming	1	-----	-----	5	6	-----
Total	1,027,272	1,228,421	1,213,166	1,246,780	1,351,734	1,429,152

[1] Alaska, Oklahoma, and Oregon combined to avoid disclosing individual company confidential data.
[2] Included with Pennsylvania to avoid disclosing individual company confidential data.
[3] North Carolina, Oregon, and Washington combined to avoid disclosing individual company confidential data.
[4] Oklahoma and Oregon combined to avoid disclosing individual company confidential data.
[5] Average for 1957–60 only.
[6] Includes North Carolina for 1957–62 and Oregon for 1961–62 to avoid disclosing individual company confidential data.
[7] Less than ½ unit.

Table 6.—Twenty-five leading copper-producing mines in the United States in 1966 in order of output

Rank	Mine	State	County	Operator	Source of copper
1	Utah Copper	Utah	Salt Lake	Kennecott Copper Corp	Copper ore, copper precipitates, gold-silver ore.
2	Morenci	Arizona	Greenlee	Phelps Dodge Corp	Do.
3	Chino	New Mexico	Grant	Kennecott Copper Corp	Copper ore, copper precipitates.
4	San Manuel	Arizona	Pinal	Magma Copper Co	Copper ore.
5	Berkeley Pit	Montana	Silver Bow	The Anaconda Company	Do.
6	Ray	Arizona	Pinal	Kennecott Copper Corp	Copper ore, copper precipitates.
7	New Cornelia	do	Pima	Phelps Dodge Corp	Copper, gold-silver ores.
8	Copper Queen-Lavender Pit.	do	Cochise	do	Copper ore, copper precipitates.
9	White Pine	Michigan	Ontonagon	White Pine Copper Co	Copper ore.
10	Inspiration	Arizona	Gila	Inspiration Consolidated Copper Co.	Copper ore, copper precipitates.
11	Butte Hill Copper Mines.	Montana	Silver Bow	The Anaconda Company	Do.
12	Mission	do	Pima	American Smelting and Refining Co.	Copper ore.
13	Yerington	Nevada	Lyon	The Anaconda Company	Do.
14	Liberty Pit	do	White Pine	Kennecott Copper Corp	Copper ore, copper precipitates, copper slag.
15	Pima and Northeast.	Arizona	Pima	Pima Mining Co	Do.
16	Mineral Park	do	Mohave	Duval Corp	Copper ore, copper precipitates.
17	Copper Cities	do	Gila	Miami Copper Co	Do.
18	Silver Bell	do	Pima	American Smelting and Refining Co.	Do.
19	Esperanza	do	do	Duval Corp	Do.
20	Bagdad	do	Yavapai	Bagdad Copper Corp	Do.
21	Magma	do	Pinal	Magma Copper Co	Copper, gold-silver ores.
22	Copperhill	Tennessee	Polk	Tennessee Copper Co	Copper-zinc ore.
23	Ahmeek Group	Michigan	Houghton and Keweenaw.	Calumet & Hecla, Inc	Copper ore.
24	Miami	Arizona	Gila	Miami Copper Co	Copper precipitates.
25	Christmas	do	do	Inspiration Consolidated Copper Co.	Copper ore.

Table 7.—Copper ore sold or treated in the United States in 1966, with copper, gold, and silver content in terms of recoverable metals [1]

State	Ore sold or treated (short tons)	Recoverable metal content				Value of gold and silver per ton of ore
		Copper		Gold (troy ounces)	Silver (troy ounces)	
		Pounds	Percent			
Arizona	101,558,298	1,359,481,200	0.67	127,431	5,595,644	$0.12
California	197	12,200	3.10	1	32	.39
Colorado	8,787	730,900	4.16	730	160,001	26.45
Idaho	72,002	2,875,900	2.00	1,502	3,238	.79
Michigan [2]	9,850,630	146,898,000	.75	-----	483,000	.06
Montana	16,595,434	232,695,200	.70	19,635	3,553,060	.32
Nevada	14,626,494	154,625,200	.53	29,214	199,669	.09
New Mexico	8,842,366	126,222,700	.71	3,725	69,912	.02
Tennessee [3]	1,591,170	30,820,000	.97	141	100,716	.08
Utah	33,617,701	440,409,100	.66	364,928	3,049,400	.50
Other States	202,963	5,092,700	1.25	20	15,739	.10
Total	186,966,042	2,499,863,100	.67	547,327	13,230,411	.19

[1] Excludes copper recovered from precipitates as follows: Arizona, 114,965,800 pounds; Montana, 21,782,300 pounds; New Mexico, 84,747,800 pounds; Utah, 83,777,200 pounds. Also excludes some copper recovered from precipitates in California and Nevada; figures withheld to avoid disclosing individual company confidential data.

[2] Includes tailings.

[3] Copper-zinc ore.

Table 8.—Copper ore concentrated in the United States in 1966, with content in terms of recoverable copper [1]

State	Ore concentrated (short tons)	Recoverable copper content	
		Pounds	Percent
Arizona	101,176,186	1,336,462,800	.66
Colorado	1,172	34,200	1.46
Idaho	72,000	2,875,800	2.00
Michigan [2]	9,850,630	146,898,000	.75
Montana	16,584,859	232,029,200	.70
Nevada	14,538,345	153,447,200	.53
New Mexico	8,781,819	126,149,800	.72
Tennessee [3]	1,591,170	30,820,000	.97
Utah	33,617,700	440,409,000	.66
Other States	202,938	5,084,700	1.25
Total	186,416,819	2,474,210,700	.66

[1] Includes all methods of concentration: "Dual process" (leaching followed by flotation concentration); LPF (leach-precipitation-flotation); tank or vat leaching; heap leaching; and froth flotation.

[2] Includes tailings.

[3] Copper-zinc ore.

Table 9.—Copper ore shipped to smelters in the United States in 1966 with content in terms of recoverable copper

State	Ore shipped to smelters		
	Short tons	Recoverable copper content	
		Pounds	Percent
Arizona	382,112	23,018,400	3.01
California	197	12,200	3.10
Colorado	7,615	696,700	4.57
Idaho	2	100	2.50
Nevada	88,149	1,178,000	.67
Montana	10,575	666,000	3.15
New Mexico	[1] 60,547	72,900	.06
Utah	1	100	5.00
Other States	25	8,000	16.00
Total	549,223	25,652,400	2.34

[1] Primarily smelter fluxing material.

Table 10.—Copper ores produced in the United States, and average yield in copper, gold, and silver

Year	Smelting ores: Short tons	Smelting ores: Yield in copper, percent	Concentrating ores: Short tons	Concentrating ores: Yield in copper, percent	Total: Short tons [1]	Total: Yield in copper, percent	Total: Yield per ton in gold, ounce	Total: Yield per ton in silver, ounce	Total: Value per ton in gold and silver
1957–61 (average)	666,030	3.94	123,635,080	0.74	125,194,355	0.76	0.0039	0.075	$0.21
1962	598,519	3.25	145,580,048	.72	150,216,710	.75	.0032	.073	.19
1963	615,570	3.32	141,284,319	.72	146,449,540	.74	.0030	.070	.19
1964	553,493	3.20	149,834,616	.71	155,200,464	.73	.0028	.074	.19
1965	[2] 624,616	2.43	[3,4] 172,634,689	.70	[5] 173,286,198	.70	.0033	.074	.21
1966	549,223	2.34	[4] 186,416,819	.66	186,966,042	.67	.0029	.071	.19

[1] Includes some ore classed as copper-zinc ore.

[2] Oregon withheld to avoid disclosing individual company confidential data; not included in total.

[3] Oklahoma withheld to avoid disclosing individual company confidential data; not included in total.

[4] Includes all methods of concentration: "Dual process" (Leaching followed by flotation concentration), LPF (leach-precipitation-flotation), tank or vat leaching, heap leaching, and froth flotation.

[5] Includes Oklahoma and Oregon.

Table 11.—Copper produced by primary smelters in the United States

(Short tons)

Year	Domestic	Foreign	Secondary	Total
1957–61 (average)	1,035,726	70,269	69,105	1,175,100
1962	1,282,126	40,488	86,903	1,409,517
1963	1,258,126	38,574	97,986	1,394,686
1964	1,301,115	37,318	88,365	1,426,798
1965	1,402,806	31,244	93,895	1,527,945
1966	1,429,863	36,573	114,671	1,581,107

Table 12.—Primary and secondary copper produced by primary refineries in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Primary:						
From domestic ores, etc.: [1]						
Electrolytic	917,103	1,098,032	1,095,377	1,139,494	1,200,532	1,213,918
Lake	59,752	67,072	64,146	62,598	71,241	69,126
Casting	53,324	49,042	59,819	57,760	63,887	70,043
Total	1,030,179	1,214,146	1,219,342	1,259,852	1,335,660	1,353,087
From foreign ores, etc.: [1]						
Electrolytic	342,690	379,236	357,015	371,003	332,593	321,302
Casting and best select	21,933	18,348	19,994	25,540	43,540	36,595
Total refinery production of primary copper	1,394,802	1,611,730	1,596,351	1,656,395	1,711,793	1,710,984
Secondary:						
Electrolytic [2]	215,154	237,472	240,620	276,954	368,232	409,986
Casting	9,926	12,214	17,993	23,172	19,879	27,977
Total secondary	225,080	249,686	258,613	300,126	388,111	437,963
Grand total	1,619,882	1,861,416	1,854,964	1,956,521	2,099,904	2,148,947

[1] The separation of refined copper into metal of domestic and foreign origin is only approximate, as accurate separation is not possible at this stage of processing.

[2] Includes copper reported from foreign scrap.

Table 13.—Copper cast in forms at primary refineries in the United States

Form	1965		1966	
	Thousand short tons	Percent	Thousand short tons	Percent
Billets	229	11	246	11
Cakes	205	10	236	11
Cathodes	119	6	157	7
Ingots and ingot bars	201	9	186	9
Wire bars	1,330	63	1,305	61
Other forms	16	1	19	1
Total	2,100	100	2,149	100

Table 14.—Production, shipments, and stocks of copper sulfate

(Short tons)

Year	Production		Shipments	Stocks Dec. 31 [1]
	Quantity	Copper content		
1957–61 (average)	53,230	13,308	51,950	4,743
1962	39,984	9,996	40,332	5,572
1963	41,636	10,409	41,188	5,480
1964	41,908	10,477	43,684	3,416
1965	47,340	11,835	45,640	5,048
1966	51,676	12,919	51,816	4,464

[1] Some small quantities are purchased and used by producing companies, so that the figures given do not balance exactly.

Table 15.—Byproduct sulfuric acid [1] (100-percent basis) produced in the United States

(Short tons)

Year	Copper plants [2]	Zinc plants [3]	Total	Year	Copper plants [2]	Zinc plants [3]	Total
1957–61 (average)	407,139	788,860	1,195,999	1964	330,273	924,100	1,254,373
1962	403,683	815,322	1,219,005	1965	369,321	961,591	1,330,912
1963	358,503	861,763	1,220,266	1966	469,728	983,118	1,452,846

[1] Includes acid from foreign materials.

[2] Includes acid produced at a lead smelter. Excludes acid made from pyrites concentrates in Arizona, Montana, Tennessee, and Utah.

[3] Excludes acid made from native sulfur.

Table 16.—Secondary copper produced in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Copper recovered as unalloyed copper	271,157	301,374	314,643	366,197	462,811	509,084
Copper recovered in alloys [1]	586,877	620,454	659,783	726,824	790,439	825,165
Total secondary copper	858,034	921,828	974,426	1,093,021	1,253,250	1,334,249
Source:						
New scrap	424,566	506,154	552,583	619,500	739,814	799,389
Old scrap	433,468	415,674	421,843	473,521	513,436	534,860
Percentage equivalent of domestic mine output	85	75	80	88	93	93

[1] Includes copper in chemicals, as follows: 1957–61 (average), 11,443; 1962, 9,986; 1963, 10,191; 1964, 7,755; 1965, 6,129; and 1966, 6,043.

Table 17.—Copper recovered from scrap process in the United States, by kinds of scrap and form of recovery

(Short tons)

Kind of scrap	1965	1966	Form of recovery	1965	1966
New scrap:			As unalloyed copper:		
Copper-base	730,024	789,262	At primary plants	388,111	437,963
Aluminum-base	9,573	10,000	At other plants	74,700	71,121
Nickel-base	202	117			
Zinc-base	15	10	Total	462,811	509,084
Total	739,814	799,389	In brass and bronze	750,624	783,236
			In alloy iron and steel	2,945	2,167
Old scrap:			In aluminum alloys	30,552	33,432
Copper-base	507,046	528,097	In other alloys	189	287
Aluminum-base	5,657	6,000	In chemical compounds	6,129	6,043
Nickel-base	678	726			
Tin-base	20	18	Total	790,489	825,165
Zinc-base	35	19			
			Grand total	1,253,250	1,334,249
Total	513,436	534,860			
Grand total	1,253,250	1,334,249			

Table 18.—Copper recovered as refined copper, in alloys and in other forms from copper-base scrap processed in the United States

(Short tons)

	From new scrap		From old scrap		Total	
	1965	1966	1965	1966	1965	1966
Recovered by—						
Secondary smelters	58,995	63,329	254,974	250,890	313,969	314,219
Primary copper producers	230,638	249,330	157,473	188,633	388,111	437,963
Brass mills	419,184	452,916	21,648	18,969	440,832	471,885
Foundries and manufacturers	19,654	22,060	68,413	64,997	88,067	87,057
Chemical plants	1,553	1,627	4,538	4,608	6,091	6,235
Total	730,024	789,262	507,046	528,097	1,237,070	1,317,359

Table 19.—Production of secondary copper and copper-alloy products in the United States

(Short tons)

Item produced from scrap	1965	1966
Unalloyed copper products:		
Refined copper by primary producers	388,111	437,963
Refined copper by secondary smelters	56,941	53,361
Copper powder	15,484	15,711
Copper castings	2,275	2,049
Total	462,811	509,084
Alloyed copper products:		
Brass and bronze ingots:		
Tin bronze	16,928	17,871
Leaded tin bronze	18,528	19,291
Leaded red brass	101,380	111,487
Leaded semired brass	84,944	79,314
High-leaded tin bronze	41,997	42,937
Leaded yellow brass	12,525	18,470
Nickel silver	4,362	4,650
Low brass	2,825	3,738
Conductor bronze	800	1,296
Manganese bronze	14,152	16,595
Aluminum bronze	9,810	11,817
Silicon bronze	5,736	6,954
Copper-base hardeners and special alloys	19,509	17,146
Total	333,496	351,566
Brass-mill products	576,284	613,984
Brass and bronze castings	68,618	64,276
Brass powder	1,456	1,325
Copper in chemical products	6,129	6,043
Grand total	1,448,794	1,546,278

Table 20.—Composition of secondary copper-alloy production

(Short tons)

	Copper	Tin	Lead	Zinc	Nickel	Aluminum	Total
Brass and bronze production: [1]							
1965	262,749	15,661	21,317	33,034	659	76	333,496
1966	274,571	17,217	23,572	35,174	951	81	351,566
Secondary metal content of brass-mill products:							
1965	441,142	301	5,174	126,356	3,282	29	576,284
1966	471,976	363	5,280	129,956	6,378	31	613,984
Secondary metal content of brass and bronze castings:							
1965	53,718	2,665	7,860	4,280	44	51	68,618
1966	50,789	2,357	6,660	4,357	50	63	64,276

[1] About 90 percent from scrap and 10 percent from other than scrap.

Table 21.—Stocks and consumption of purchased copper scrap in the United States in 1966

(Short tons)

Class of consumer and type of scrap	Stocks Jan. 1	Receipts	Consumption			Stocks Dec. 31
			New scrap	Old scrap	Total	
Secondary smelters:						
No. 1 wire and heavy copper	2,443	39,257	4,498	34,046	38,544	3,156
No. 2 wire, mixed heavy and light copper	2,491	62,677	8,357	54,301	62,658	2,510
Composition or red brass	4,324	105,072	31,720	73,272	104,992	4,404
Railroad-car boxes	320	1,351	-----	1,512	1,512	159
Yellow brass	6,386	69,404	9,210	59,115	68,325	7,465
Cartridge cases and brass	96	986	-----	920	920	162
Auto radiators (unsweated)	3,414	62,775	-----	62,761	62,761	3,428
Bronze	1,588	36,305	6,216	29,424	35,640	2,253
Nickel silver	754	5,882	729	5,014	5,743	893
Low brass	301	3,349	2,554	820	3,374	276
Aluminum bronze	172	526	343	239	582	116
Low-grade scrap and residues	6,607	49,745	39,852	10,262	50,114	6,238
Total	28,896	437,329	103,479	331,686	435,165	31,060
Primary producers:						
No. 1 wire and heavy copper	3,226	134,899	78,695	52,453	131,148	6,977
No. 2 wire, mixed heavy and light copper	5,860	260,297	158,712	90,400	249,112	17,045
Refinery brass	948	11,877	7,023	4,612	11,635	1,190
Low-grade scrap and residues	34,497	276,703	94,610	197,402	292,012	19,188
Total	44,531	683,776	339,040	344,867	683,907	44,400
Brass mills:[1]						
No. 1 wire and heavy copper	8,676	119,762	110,489	9,273	119,762	4,983
No. 2 wire, mixed heavy and light copper	3,657	57,788	57,788	-----	57,788	10,339
Yellow brass	14,645	260,351	260,351	-----	260,351	18,902
Cartridge cases and brass	4,126	92,346	78,222	14,124	92,346	5,047
Bronze	698	3,711	3,711	-----	3,711	791
Nickel silver	4,026	22,320	22,320	-----	22,320	7,511
Low brass	2,778	36,088	36,088	-----	36,088	2,986
Aluminum bronze	264	318	318	-----	318	432
Mixed alloy scrap	12,312	31,339	31,339	-----	31,339	11,765
Total[1]	51,182	624,023	600,626	23,397	624,023	62,756
Foundries, chemical plants, and other manufacturers:						
No. 1 wire and heavy copper	2,972	28,281	12,517	15,342	27,859	3,394
No. 2 wire, mixed heavy and light copper	1,912	22,445	4,892	16,927	21,819	2,538
Composition or red brass	643	5,322	1,752	3,425	5,177	788
Railroad-car boxes	1,131	30,614	-----	30,689	30,689	1,056
Yellow brass	988	8,982	3,999	4,709	8,708	1,262
Auto radiators (Unsweated)	1,360	10,553	-----	9,270	9,270	2,643
Bronze	391	2,195	905	1,251	2,156	430
Nickel silver	3	133	-----	132	132	4
Low brass	217	1,507	203	1,395	1,598	126
Aluminum bronze	173	850	391	392	783	240
Low-grade scrap and residues	3,846	16,553	4,249	12,405	16,654	3,745
Total	13,636	127,435	[2] 28,908	[2] 95,937	[2] 124,845	16,226
Grand total:						
No. 1 wire and heavy copper	17,317	322,199	206,199	111,114	317,313	18,510
No. 2 wire, mixed heavy and light copper	13,920	403,207	229,749	161,628	391,377	32,432
Composition or red brass	4,967	110,394	33,472	76,697	110,169	5,192
Railroad-car boxes	1,451	31,965	-----	32,201	32,201	1,215
Yellow brass	22,019	338,737	273,560	63,824	337,384	27,629
Cartridge cases and brass	4,222	93,332	78,222	15,044	93,266	5,209
Auto radiators (unsweated)	4,774	73,328	-----	72,031	72,031	6,071
Bronze	2,677	42,211	10,832	30,675	41,507	3,474
Nickel silver	4,783	28,335	23,049	5,146	28,195	8,408
Low brass	3,296	40,944	38,845	2,215	41,060	3,388
Aluminum bronze	609	1,694	1,052	631	1,683	788
Low-grade scrap and residues[3]	45,898	354,878	145,734	224,681	370,415	30,361
Mixed alloy scrap	12,312	31,339	31,339	-----	31,339	11,765
Total	138,245	1,872,563	1,072,053	795,887	1,867,940	154,442

[1] Brass-mill stocks include home scrap; purchased scrap consumption assumed equal to receipts, so lines in brass-mill and grand total sections do not balance.

[2] Of the totals shown, chemical plants reported the following: Unalloyed copper scrap, 1,031 tons of new and 2,926 old; copper-base alloy scrap 3,236 tons of new and 9,062 old.

[3] Includes refinery brass.

Table 22.—Consumption of copper and brass materials in the United States, by principal consuming groups

(Short tons)

Year and item	Primary producers	Brass mills	Wire mills	Foundries, chemical plants, and miscellaneous users	Secondary smelters	Total
1965:						
Copper scrap	601,093	585,542	-----	122,692	425,804	1,735,131
Refined copper [1]	-----	739,906	1,223,432	34,828	6,457	2,004,623
Brass ingot	-----	6,483	-----	[2] 324,707	-----	331,190
Slab zinc	-----	115,280	-----	3,968	7,600	126,848
Miscellaneous	-----	-----	-----	100	8,386	8,486
1966:						
Copper scrap	683,907	624,023	-----	124,845	435,165	1,867,940
Refined copper [1]	-----	928,490	1,370,842	40,931	19,691	2,359,954
Brass ingot	-----	6,559	-----	[2] 335,435	-----	341,994
Slab zinc	-----	170,649	-----	4,381	10,522	185,552
Miscellaneous	-----	-----	-----	150	9,050	9,200

[1] Detailed information on consumption of refined copper will be found in table 27.

[2] Shipments to foundries by smelters minus increase in stocks at foundries.

Table 23.—Foundry consumption of brass ingot, by types, in the United States

(Short tons)

Type of ingot	1957-61 (average)	1962	1963	1964	1965	1966
Tin bronze	11,556	9,677	8,295	9,334	9,999	11,174
Leaded tin bronze	23,054	27,034	25,655	27,683	31,331	31,699
Leaded red brass	146,298	158,047	163,153	176,423	181,773	174,270
High-leaded tin bronze	19,279	17,916	18,850	21,014	22,930	23,595
Leaded yellow brass	15,520	10,632	11,815	12,938	19,767	17,349
Manganese bronze	9,434	8,564	8,497	9,264	9,816	10,331
Hardeners	2,161	2,711	3,889	4,071	4,349	4,035
Nickel silver	2,768	3,303	2,789	3,084	3,398	3,577
Aluminum bronze	(1)	7,688	8,053	7,820	8,122	8,361
Low brass [2]	7,578	928	1,316	1,929	2,503	3,575
Total	237,648	246,500	252,312	273,560	293,988	287,966

[1] Included with low brass.

[2] Includes aluminum bronze for 1957-61.

Table 24.—Foundry consumption of brass ingot by types, refined copper, and copper scrap, in the United States in 1966, by geographic divisions and States

(Short tons)

Geographic division and State	Tin bronze	Leaded tin bronze	Leaded red brass	High-leaded tin bronze	Leaded yellow brass	Manganese bronze	Hardeners	Nickel silver	Aluminum bronze	Low brass	Total brass ingot	Refined copper consumed	Copper scrap consumed
New England:													
Connecticut	114	769	5,276	260	1,888	152	16	19	464	529	9,090	286	1,342
Massachusetts	789	2,068	8,782	463	81	370	37	262			13,249	831	1,090
Maine, New Hampshire, Rhode Island, and Vermont	110	261	2,544	141	223	163	5	307	9	63	3,826	156	10
Total	1,013	3,098	16,602	864	2,192	685	58	588	473	592	26,165	1,273	2,442
Middle Atlantic:													
New Jersey	1,032	525	4,076	271	288	303	17	44	187	226	6,969	2,579	5,708
New York	982	1,571	15,256	1,027	450	885	100	146	1,209	168	21,794	1,231	7,996
Pennsylvania	1,786	7,531	18,876	3,439	1,334	1,560	2,367	436	647	555	38,531	7,602	13,396
Total	3,800	9,627	38,208	4,737	2,072	2,748	2,484	626	2,043	949	67,294	11,412	27,100
East North Central:													
Illinois	597	2,287	17,971	1,019	95	643	217	203	1,028	411	24,471	2,129	5,518
Indiana	73	388	15,178	907	1,007	222	67	329	94	124	18,389	2,403	5,469
Michigan	217	488	9,257	558	3,549	1,929	370	81	454	78	16,931	4,462	1,415
Ohio	1,851	10,579	21,623	8,663	242	1,647	257	167	1,021	275	46,325	4,938	10,467
Wisconsin	717	616	8,271	3,121	1,808	180	268	1,016	381	526	16,904	6,635	603
Total	3,455	14,358	72,300	14,268	6,701	4,621	1,179	1,746	2,978	1,414	123,020	20,567	23,472
West North Central:													
Iowa, Kansas, and Minnesota	398	258	5,922	127	54	295	152	73	192	169	7,600	393	2,138
Missouri, Nebraska, and South Dakota	74	259	1,349	811	749	115			629	26	4,052	704	14,154
Total	472	517	7,271	938	803	410	152	73	821	195	11,652	1,097	16,292
South Atlantic:													
Delaware, District of Columbia, Florida, Georgia, and Maryland	674	966	509	56	131	165	14	29	95	10	2,647	391	571
North Carolina, South Carolina, Virginia, and West Virginia	310	211	7,112	295	895	193			315		9,333	912	7,756
Total	984	1,177	7,621	351	1,026	358	14	29	410	10	11,980	1,303	8,327

Table 24.—Foundry consumption of brass ingot by types, refined copper, and copper scrap, in the United States in 1966, by geographic divisions and States—Continued

(Short tons)

Geographic division and State	Tin bronze	Leaded tin bronze	Leaded red brass	High-leaded tin bronze	Leaded yellow brass	Manganese bronze	Hardeners	Nickel silver	Aluminum bronze	Low brass	Total brass ingot	Refined copper consumed	Copper scrap consumed
East South Central:													
Alabama, Kentucky, Mississippi, and Tennessee	379	1,007	14,062	960	3,286	373	63	91	110	84	20,415	393	8,054
West South Central:													
Arkansas, Louisiana, Oklahoma, and Texas	302	1,298	7,391	528	778	466	18	324	997	152	12,254	661	5,913
Mountain:													
Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, and Utah	108	39	331	17	60	61	2	2	18	72	710	212	526
Pacific:													
California	532	556	10,181	642	288	484	65	98	323	107	13,240	658	12,198
Oregon and Washington	129	22	303	290	143	125	--	--	188		1,236	1,037	4,266
Total	661	578	10,484	932	431	609	65	98	511	107	14,476	1,695	16,464
Grand total	11,174	31,699	174,270	23,595	17,349	10,331	4,035	3,577	8,361	3,575	287,966	38,613	108,590

Table 25.—Dealers' monthly average buying price for copper scrap and consumers' alloy-ingot prices at New York in 1966

(Cents per pound)

Grade	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
No. 2 copper scrap	41.90	45.32	51.45	53.50	49.71	51.24	50.90	37.02	34.36	[1] 41.38	[1] 41.47	[1] 37.64	44.66
No. 1 composition scrap	30.90	31.61	32.64	33.80	35.12	35.50	35.39	30.80	30.52	[1] 33.64	[1] 34.32	[1] 32.48	33.06
No. 1 composition ingot	44.75	44.75	51.54	52.88	52.88	52.88	52.88	51.54	50.00	50.00	50.00	50.00	50.34

[1] Nominal

Source: Metal Statistics, 1967.

Table 26.—Primary refined copper supply and withdrawals on domestic account

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Production from domestic and foreign ores, etc.	1,394,802	1,611,730	1,596,351	1,656,395	1,711,793	1,710,984
Imports [1]	142,879	98,820	119,219	139,974	137,443	162,602
Stock Jan. 1 [1]	70,000	49,000	71,000	52,000	37,000	35,000
Total available supply	1,607,681	1,759,550	1,786,570	1,848,369	1,886,236	1,908,586
Copper exports [1]	350,462	336,525	311,479	316,230	324,965	273,071
Stock Dec. 31 [1]	64,000	71,000	52,000	37,000	35,000	43,000
Total	414,462	407,525	363,479	353,230	359,965	316,071
Apparent withdrawals on domestic account [2]	1,193,000	1,352,000	1,423,000	1,495,000	1,526,000	1,593,000

[1] May include some copper refined from scrap.
[2] Includes copper delivered by industry to the Government stockpiles.

Table 27.—Refined copper consumed, by classes of consumers

(Short tons)

Year and class of consumer	Cathodes	Wire bars	Ingots and ingot bars	Cakes and slabs	Billets	Other	Total
1965:							
Wire mills	100	1,212,234	10,286	-----	-----	812	1,223,432
Brass mills	121,815	35,312	156,107	195,742	230,816	114	739,906
Chemical plants	-----	-----	1,701	-----	-----	723	2,424
Secondary smelters	3,506	-----	2,670	2	-----	279	6,457
Foundries	2,918	70	11,806	-----	448	1,266	16,508
Miscellaneous [1]	1,126	26	7,047	(2)	719	[3] 6,978	15,896
Total	129,465	1,247,642	189,617	195,744	231,983	10,172	2,004,623
1966:							
Wire mills	2,698	1,356,428	10,811	-----	22	883	1,370,842
Brass mills	180,350	39,503	211,500	234,156	262,834	147	928,490
Chemical plants	-----	-----	1,586	-----	-----	732	2,318
Secondary smelters	9,408	-----	9,968	111	-----	204	19,691
Foundries	2,101	57	15,678	(2)	395	[3] 1,261	19,492
Miscellaneous [1]	1,407	52	9,489	(2)	774	[3] 7,399	19,121
Total	195,964	1,396,040	259,032	234,267	264,025	10,626	2,359,954

[1] Includes iron and steel plants, primary smelters producing alloys other than copper, consumers of copper powder and copper shot, and miscellaneous manufacturers.
[2] Included with "Other" to avoid disclosing individual company confidential data.
[3] Includes "Cakes and slabs" to avoid disclosing individual company confidential data.

Table 28.—Stocks of copper at primary smelting and refining plants in the United States, Dec. 31

(Short tons)

Year	Refined copper [1]	Blister and materials in process of refining [2]
1957–61 (average)	64,000	256,000
1962	71,000	246,000
1963	52,000	252,000
1964	37,000	246,000
1965	35,000	246,000
1966	43,000	270,000

[1] May include some copper refined from scrap.

[2] Includes copper in transit from smelters in the United States to refineries therein.

Table 29.—Stocks of copper in fabricators' hands Dec. 31

(Short tons)

Year	Stocks of refined copper [1] (1)	Unfilled purchases of refined copper from producers (2)	Working stocks (3)	Unfilled sales to customers (4)	Excess stocks over orders booked [2] (5)
1962	465,592	81,297	385,239	138,089	23,561
1963	474,875	100,357	382,692	163,558	28,982
1964	429,989	107,244	381,677	225,366	−69,810
1965	462,519	129,349	395,396	288,681	−92,209
1966	558,599	134,732	407,345	361,559	−75,573

[1] Includes in-process metal and primary fabricated shapes. Also includes small quantities of refined copper held at refineries for fabricators' account.

[2] Columns (1) plus (2) minus (3) and minus (4) equal column (5).

Source: United States Copper Association.

Table 30.—Average weighted prices of copper deliveries [1]

(Cents per pound)

Year	Domestic copper	Foreign copper
1962	30.8	30.6
1963	30.8	30.7
1964	32.6	33.0
1965	35.4	36.5
1966	36.2	50.5

[1] Covers copper produced in the United States and delivered here and abroad and copper produced abroad and delivered in the United States.

Source: Bureau of Mines reports from copper selling agencies, 1962–65 and E&MJ Metal and Mineral Markets in 1966.

Table 31.—Average monthly quoted prices of electrolytic copper for domestic and export shipments, f.o.b. refineries, in the United States and for spot copper at London

(Cents per pound)

Month	1965				1966			
	Domestic, f.o.b. refinery [1]	Domestic, f.o.b. refinery [2]	Export, f.o.b. refinery [2]	London, spot [3][4]	Domestic, f.o.b. refinery [1]	Domestic, f.o.b. refinery [2]	Export, f.o.b. refinery [2]	London, spot [3][4]
January	33.82	33.600	33.376	45.15	35.82	36.131	41.770	76.18
February	33.82	33.600	32.994	53.15	35.82	36.045	42.845	85.01
March	33.82	33.600	33.191	55.80	35.82	36.124	44.298	84.78
April	33.82	33.600	33.223	60.94	35.82	36.150	43.438	86.15
May	35.68	35.454	35.921	62.28	35.82	36.033	55.433	75.08
June	35.82	35.600	36.107	59.04	35.82	35.928	57.278	76.54
July	35.82	35.600	36.052	51.15	35.82	36.016	57.718	70.78
August	35.82	35.600	35.688	54.63	35.82	35.964	48.797	53.93
September	35.82	35.600	35.605	60.02	35.82	36.089	47.086	50.92
October	35.82	35.678	38.083	63.58	35.82	36.333	52.376	57.60
November	36.35	36.414	38.460	66.62	35.82	36.988	53.342	58.79
December	35.82	35.861	38.549	68.81	35.82	36.245	49.763	54.84
Average	35.19	35.017	35.604	58.52	35.82	36.170	49.512	69.04

[1] American Metal Market.
[2] E&MJ Metal and Mineral Markets.
[3] Metal Bulletin (London).
[4] Based on average monthly rates of exchange by Federal Reserve Board.

Table 32.—U.S. exports of copper by classes and countries

(Short tons)

Year and country	Ore, concentrates, matte (copper content)	Refined	Scrap	Pipes and tubing	Plates and sheets	Wire and cable, bare	Wire and cable, insulated	Other copper manufactures[1]
1957-61 (average)	9,140	350,462	35,138	1,087	320	4,960	17,260	4,219
1962	1,916	336,525	12,608	864	349	2,875	13,364	6,768
1963	1,210	311,479	13,690	1,158	338	3,150	15,145	5,811
1964	5,395	316,230	43,749	1,433	398	5,186	14,436	4,470
1965	15,510	324,965	31,760	895	930	4,560	16,388	[r] 6,582
1966:								
North America:								
Canada	62	10,349	1,211	70	209	456	10,551	1,026
Mexico	---	1	17	16	42	113	343	57
Other	---	49	---	86	6	149	1,398	1,700
Total	62	10,399	1,228	172	257	718	12,292	2,783
South America:								
Argentina	---	6,551	---	---	---	5	66	(2)
Brazil	---	39,170	53	5	---	17	17	105
Colombia	---	109	---	16	(2)	16	89	1,583
Peru	619	49	---	14	1	18	287	17
Other	---	45	4	25	26	208	462	941
Total	619	45,924	57	60	27	264	921	2,646
Europe:								
Belgium-Luxembourg	140	1,463	760	1	(2)	27	34	33
France	---	34,331	85	---	12	50	209	37
Germany, West	419	31,465	2,700	2	1	3	680	641
Italy	5	52,160	567	7	1	7	167	10
Netherlands	3	5,023	---	4	---	9	168	5
Spain	---	3,052	2,600	22	6	8	98	3
Sweden	---	4,455	75	1	---	12	99	7
Switzerland	---	2,741	---	1	---	53	110	34
United Kingdom	120	39,122	187	---	1	9	320	15
Other	---	5,702	3,345	16	(2)	142	313	46
Total	687	179,514	10,319	54	21	320	2,198	831
Africa	---	183	---	41	2	1,184	1,483	182
Asia:								
India	---	11,718	61	37	3	385	826	87
Japan	781	24,444	6,303	1	1	17	219	68
Other	---	868	---	154	---	1,279	4,988	324
Total	781	37,030	6,364	192	4	1,681	6,033	479
Oceania	---	21	---	1	(2)	25	325	13
Grand total	2,149	273,071	17,968	520	311	4,192	23,252	6,934

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[r] Revised.

[1] Does not include wire cloth, effective Jan. 1, 1965, 894,753,210 square feet $1,296,498; 1966: 948,388 square feet $503,074.

[2] Less than ½ unit.

Table 33.—U.S. exports of copper by classes

Year	Ore, concentrates, and matte (copper content)		Refined copper and semimanufactures		Other copper manufactures[1]		Total	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957-61 (average)	9,140	$5,389	409,227	$253,853	4,219	$3,110	422,586	$262,352
1962	1,916	1,045	366,585	234,605	6,768	5,107	375,269	240,757
1963	1,210	638	344,960	225,649	5,811	4,273	351,981	230,560
1964	5,395	2,971	381,432	262,741	4,470	3,668	391,297	269,380
1965	15,510	8,369	379,498	317,337	[r] 6,796	[r] 7,062	[r] 401,804	[r] 332,768
1966	2,149	927	319,314	338,184	6,934	7,804	328,397	346,915

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[r] Revised.

[1] Does not include wire cloth, effective Jan. 1, 1965: 894,753,210 square feet $1,296,498; 1966; 948,388 square feet $503,074.

Table 34.—U.S. exports of copper-base alloy (including brass and bronze), by classes

Class	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Ingots	1,519	$1,392	1,441	$1,520
Scrap and waste	65,325	35,999	43,670	27,628
Bars, rods, and shapes	2,073	3,596	1,728	3,058
Plates, sheets, and strips	3,435	6,353	1,194	3,356
Pipes and tubing	1,879	3,066	1,932	3,345
Pipe fittings	2,840	7,612	2,282	6,707
Plumbers' brass goods	555	r 1,721	887	2,014
Welding rods and wire	816	1,962	1,116	2,129
Castings and forgings	422	960	473	887
Powder and flakes	969	1,374	1,099	1,743
Foil	216	714	489	1,376
Articles of copper and copper-base alloys n.e.c.	(1)	5,367	(1)	6,306
Total	80,049	70,116	56,311	60,069

r Revised.

[1] Quantity not reported.

Table 35.—U.S. exports of unfabricated copper-base alloy[1] ingots, bars, rods, shapes, plates, sheets, and strips

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957–61 (average)	1,648	$3,188	1964	4,142	$6,056
1962	2,391	4,228	1965	7,027	11,341
1963	2,046	3,491	1966	4,363	7,934

[1] Includes brass and bronze.

Table 36.—U.S. exports of copper sulfate (blue vitriol)

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957–61 (average)	13,196	$2,661	1964	1,087	$275
1962	1,916	456	1965	2,135	1,288
1963	851	227	1966	3,563	1,725

Table 37.—U.S. imports and exports of brass and copper scrap

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Exports:						
Copper-base alloy scrap (new and old)	73,347	36,209	34,717	68,670	65,325	43,670
Copper scrap	35,138	12,608	13,690	43,749	31,760	17,968
Imports for consumption:						
Brass scrap (gross weight)	3,580	2,141	1,516	989	r 2,275	7,360
Copper scrap (copper content)	3,631	3,846	2,130	2,055	r 17,667	23,908

r Revised.

Table 38.—U.S. imports for consumption and exports of copper scrap by countries

(Short tons)

Country	Imports						Exports			
	Unalloyed copper scrap (copper content)		Copper alloy scrap (gross weight)		Copper alloy scrap (copper content)		Unalloyed copper scrap		Copper alloy scrap	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
North America:										
Canada	[r]3,304	17,404	1,729	6,670	1,094	4,548	480	1,211	981	1,665
Mexico	1,945	2,722	60	127	41	99	---	17	59	83
Other	396	683	362	344	275	272	---	---	---	31
Total	[r]5,645	20,809	2,151	7,141	1,410	4,919	480	1,228	1,040	1,779
South America	[r]11,302	2,211	12	---	11	---	64	57	67	185
Europe:										
Belgium-Luxembourg	41	---	---	---	---	---	2,768	760	3,937	3,598
France	---	---	---	---	---	---	2	85	509	148
Germany, West	13	7	15	---	10	---	4,386	2,700	8,840	4,187
Italy	1	1	---	---	---	---	1,201	567	8,131	1,967
Netherlands	1	73	---	---	---	---	149	---	1,192	394
Spain	44	77	---	---	---	---	9,710	2,600	1,695	2,207
Sweden	1	---	---	---	---	---	120	75	3,891	3,416
United Kingdom	54	52	11	178	10	108	118	187	1,234	409
Yugoslavia	---	---	---	---	---	---	7,451	3,243	1,595	238
Other	7	16	---	---	---	---	199	102	462	157
Total	162	226	26	178	20	108	26,104	10,319	31,486	16,721
Africa	84	16	5	7	4	5	1,123	---	---	---
Asia:										
India	---	---	---	---	---	---	575	61	75	31
Japan	335	541	---	---	---	---	3,249	6,303	32,513	24,896
Other	---	21	---	34	---	24	55	---	113	22
Total	335	562	---	34	---	24	3,879	6,364	32,701	24,949
Oceania	[r]139	84	81	---	45	---	110	---	31	36
Grand total	[r]17,667	23,908	2,275	7,360	1,490	5,056	31,760	17,968	65,325	43,670

[r] Revised.

Table 39.—U.S. imports[1] of copper (unmanufactured) by classes and countries

(Short tons, copper content)

Year and country	Ore and concentrates	Matte	Blister	Refined	Scrap	Total
1957-61 (average)	79,991	5,396	295,185	142,879	5,196	528,647
1962	42,917	635	331,686	98,820	4,793	478,851
1963	47,501	907	368,900	119,219	2,869	539,396
1964	51,435	603	389,579	139,974	4,473	586,064
1965:						
North America:						
Canada	6,387	21	---	72,583	r 5,006	r 83,997
Mexico	104	---	6,733	215	2,069	9,121
Other	10	1	---	---	446	457
Total	6,501	22	6,733	72,798	r 7,521	r 93,575
South America:						
Bolivia	1,991	---	---	---	---	1,991
Chile	2,933	228	187,841	15,623	r 6,871	r 213,491
Peru	10,117	247	82,421	35,623	909	129,317
Other	---	8	---	---	84	92
Total	15,041	478	270,262	51,246	r 7,864	r 344,891
Europe:						
Germany, West	---	---	1,107	2	1	1,110
Netherlands	---	---	---	530	---	530
Norway	---	---	---	1,346	---	1,346
United Kingdom	---	---	---	342	54	396
Other	---	---	---	911	49	960
Total	---	---	1,107	3,131	104	4,342
Africa:						
South Africa, Republic of	1,660	---	44,332	560	---	46,552
Southern Rhodesia, Zambia and Malawi	---	---	---	3,189	---	3,189
Other	---	---	1,222	653	---	1,875
Total	1,660	---	45,554	4,402	---	51,616
Asia:						
Japan	---	---	667	1,530	577	2,774
Philippines	12,378	8	---	---	---	12,386
Turkey	---	---	8,237	---	---	8,237
Total	12,378	8	8,904	1,530	577	23,397
Oceania: Australia	845	---	---	4,336	r 139	r 5,320
Grand total	36,425	508	332,560	137,443	r 16,205	r 523,141
1966:						
North America:						
Canada	7,746	351	596	85,723	22,558	116,974
Mexico	83	---	7,925	---	3,182	11,190
Other	1,029	2	---	16	674	1,721
Total	8,858	353	8,521	85,739	26,414	129,885
South America:						
Bolivia	2,462	---	---	---	---	2,462
Chile	818	---	182,662	21,326	2,241	207,047
Peru	6,863	---	95,975	23,782	14	126,634
Other	---	7	1,110	268	84	1,469
Total	10,143	7	279,747	45,376	2,339	337,612
Europe:						
Germany, West	---	---	6	8,120	7	8,133
Netherlands	---	---	56	1,370	98	1,524
Norway	---	---	---	1,158	---	1,158
United Kingdom	---	---	957	14,104	52	15,113
Other	42	---	79	4,793	17	4,931
Total	42	---	1,098	29,545	174	30,859
Africa:						
South Africa, Republic of	228	---	50,088	336	---	50,652
Other	---	---	8,462	1,164	16	9,642
Total	228	---	58,550	1,500	16	60,294
Asia:						
Japan	---	---	348	442	54	844
Philippines	21,023	11	---	---	21	21,055
Turkey	---	---	1,653	---	---	1,653
Other	75	---	---	---	---	75
Total	21,098	11	2,001	442	75	23,627
Oceania: Australia	1,202	---	---	---	28	1,230
Grand total	41,571	371	349,917	162,602	29,046	583,507

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r Revised.

[1] Data are "general" imports, that is, they include copper imported for immediate consumption plus material entering the country under bond.

Table 40.—U.S. imports[1] of copper (unmanufactured), by countries

(Short tons, copper content)

Country	1957–61 (average)	1962	1963	1964	1965	1966
North America:						
Canada	100,670	98,753	90,670	110,626	r 83,997	116,974
Mexico	34,176	23,779	22,344	14,073	9,121	11,190
Other	10,236	368	197	279	457	1,721
Total	145,082	122,900	113,211	124,978	r 93,575	129,885
South America:						
Bolivia	2,380	1,580	1,520	1,492	1,991	2,462
Chile	222,538	225,394	227,001	258,943	r 213,491	207,047
Peru	56,569	72,133	99,578	112,410	129,317	126,634
Other	485	28	80	1,044	92	1,469
Total	281,972	299,135	328,179	373,889	r 344,891	337,612
Europe:						
Belgium-Luxembourg	2,336	---	12,657	2,045	40	3,642
Germany, West	7,964	---	2	268	1,110	8,133
Netherlands	329	23	334	502	530	1,524
Norway	64	---	---	834	1,346	1,158
United Kingdom	5,027	846	1,064	2,520	396	15,113
Other	7,600	725	128	381	920	1,289
Total	23,320	1,594	14,185	6,550	4,342	30,859
Africa:						
South Africa, Republic of	26,360	24,460	36,368	43,875	46,552	50,652
Southern Rhodesia, Zambia and Malawi	23,805	18,997	26,581	20,097	3,189	---
Other	6,192	784	4,698	4,692	1,875	9,642
Total	56,357	44,241	67,647	68,664	51,616	60,294
Asia:						
Philippines	14,574	10,126	14,907	9,487	12,386	21,055
Turkey	1,246	---	---	1,109	8,237	1,653
Other	21	35	90	373	2,774	919
Total	15,841	10,161	14,997	10,969	23,397	23,627
Oceania:						
Australia	6,041	751	1,149	1,014	r 5,320	1,230
Other	34	69	28	---	---	---
Total	6,075	820	1,177	1,014	r 5,320	1,230
Grand total	528,647	478,851	539,396	586,064	r 523,141	583,507

r Revised.

[1] Data are "general" imports, that is, they include copper imported for immediate consumption plus material entering the country under bond.

Table 41.—U.S. imports for consumption of old brass and clippings from brass or Dutch metal[1]

Year	Short tons		Value (thousands)	Year	Short tons		Value (thousands)
	Gross weight	Copper content			Gross weight	Copper content	
1957–61 (average)	3,580	2,160	$1,060	1964	989	641	$415
1962	2,141	1,289	738	1965	2,275	1,490	1,151
1963	1,516	945	558	1966	7,360	5,056	5,846

[1] For remanufacture.

Table 42.—U.S. imports for consumption of copper (copper content), by classes [1]

Year	Ore and concentrates		Matte		Blister		Refined		Scrap		Total value (thousands)
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	
1957–61 (average)	46,481	$24,155	3,536	$1,957	89,277	$49,941	156,494	$93,196	3,631	$1,867	$171,116
1962	2,322	1,414	22	12	1,119	669	130,197	76,995	3,846	2,242	81,832
1963	6,490	3,714	2,756	1,647	21,831	13,109	122,147	70,818	2,130	1,219	90.507
1964	33,033	17,235	88	47	121,365	73,300	113,018	67,468	[r] 2,055	1,372	159,422
1965	1,441	777	83	72	75,122	45,262	103,269	70,937	[r] 17,667	[r] 7,203	[r] 124,251
1966	6,843	4,118	117	85	337,955	272,996	77,783	63,654	23,908	24,662	365,515

[r] Revised.

[1] Excludes imports for manufacture in bond and export, classified as "imports for consumption" by the Bureau of the Census.

Table 43.—World mine production of copper (content of ore) recoverable where indicated, by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada [3]	457,385	[r] 452,559	486,900	[r] 507,877	509,788
Cuba [e]	6,000	6,600	6,600	6,600	6,600
Haiti	4,718	6,486	5,544	4,365	3,009
Mexico	51,945	61,576	57,878	[r] 76,238	82,006
Nicaragua	8,016	8,028	10,185	11,228	10,763
United States [3]	1,228,421	1,213,166	1,246,780	1,351,734	1,429,152
South America:					
Argentina	446	431	380	[r] 571	[e] 550
Bolivia [4]	2,646	3,300	5,160	5,215	6,285
Brazil [e]	[r] 1,700	[r] 1,600	[r] 2,200	[r] 2,200	2,200
Chile	653,613	665,951	[r] 698,140	[r] 645,233	724,364
Ecuador	194	314	[r] 188	[r] 142	246
Peru	[3] 183,854	[r] [3] 198,486	[3] 194,497	[r] [3] 198,786	194,441
Europe:					
Albania [e]	2,800	2,800	2,800	2,800	2,800
Austria	2,190	2,078	1,725	1,678	2,043
Bulgaria	[r] 21,200	23,400	22,500	[r] 32,900	[e] 34,200
Finland	38,700	37,400	35,600	32,800	29,090
France [5]	248	302	294	[r] 312	676
Germany:					
East [e]	[r] 22,000	[r] 22,000	[r] 22,000	[r] 22,000	22,000
West	2,202	2,515	[r] 1,759	[r] 1,184	1,210
Ireland	2,632	-----	-----	-----	[e] 1,500
Italy [6]	2,974	[e] 2,700	[r] 1,984	[r] 2,205	1,984
Norway	17,124	15,724	[r] 16,615	[r] 16,574	15,945
Poland [e]	15,100	14,600	16,000	16,600	17,700
Portugal	3,742	3,627	4,812	4,799	4,200
Spain	8,702	7,534	9,159	8,261	8,066
Sweden	21,044	[r] 18,400	[r] 17,846	[e] [r] 18,400	14,700
U.S.S.R. [e] [7] [8]	720,000	770,000	770,000	830,000	880,000
Yugoslavia	57,008	68,447	69,648	[r] 68,951	68,588
Africa:					
Algeria	859	1,142	1,204	1,130	[e] 1,100
Angola	1,965	71	-----	-----	-----
Congo (Brazzaville)	926	320	-----	-----	-----
Congo (Kinshasa) [8]	[r] 327,382	[r] 299,097	[r] 304,943	[r] 318,132	347,960
Morocco	2,752	1,991	1,927	[r] 1,998	2,956
Rhodesia, Southern	15,146	18,489	18,341	19,800	[e] 19,000
South Africa, Republic of	51,115	60,792	65,579	66,640	137,414
South-West Africa	24,971	35,774	38,698	43,456	42,906
Uganda [8]	17,173	17,875	20,128	18,895	17,745
Zambia	619,856	648,239	697,047	766,924	687,226
Asia:					
Burma [e]	165	190	140	150	165
China, mainland [e]	99,000	99,000	99,000	99,000	99,000
Cyprus [4]	27,734	29,001	18,513	[r] 21,235	27,775
India	10,913	11,034	11,553	11,153	11,354
Israel	6,514	8,510	[e] 8,800	[e] 8,900	9,370
Japan	114,221	118,186	117,037	[r] 118,021	122,665
Korea:					
North [e]	9,000	9,000	11,000	13,000	13,000
South [e]	474	678	[r] 940	[r] 1,540	1,760
Philippines	60,327	70,202	66,643	[r] 69,159	81,088
Taiwan	2,323	1,785	1,916	[r] 1,704	2,197
Turkey	34,700	32,200	38,030	[r] 37,040	[e] 40,100
Oceania: Australia	119,809	126,523	[r] 116,536	[r] 101,770	117,494
World total [e]	[r] 5,085,000	5,200,000	[r] 5,345,000	[r] 5,590,000	5,855,000

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[e] Estimate. [p] Preliminary. [r] Revised.

[1] Czechoslovakia, Hungary, Iran, Kenya, and Malaya also produce copper, but production data are not available, and no estimates are included in the total.

[2] Compiled mostly from data available June 1967.

[3] Recoverable.

[4] Exports.

[5] Includes copper content of auriferous ores.

[6] Includes copper content of cupriferous pyrites.

[7] Output from U.S.S.R. in Asia included with U.S.S.R. in Europe.

[8] Smelter production.

Table 44.—World smelter production of copper, by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	[r] 382,862	[r] 380,075	407,942	[r] 434,133	433,921
Mexico	[r] 50,166	[r] 59,896	[r] 56,060	[r] 74,425	60,889
United States [2]	1,322,614	1,296,700	1,338,433	1,434,050	1,581,107
South America:					
Brazil [3]	2,200	2,200	3,300	[e] 3,300	[e] 3,300
Chile	614,235	[r] 614,390	[r] 647,139	[r] 614,540	689,897
Peru	164,920	[r] 173,615	[r] 167,625	[r] 174,851	166,533
Europe: [4]					
Albania	2,050	2,249	[r] 2,429	[e] 2,200	[e] 2,200
Austria [3]	14,186	14,385	16,140	[r] 17,864	18,767
Bulgaria	[r] 21,428	22,622	[r] 23,261	[r] 27,831	[e] 28,660
Finland (electrolytic)	37,400	41,664	36,571	33,645	35,177
Germany:					
East [e]	22,000	22,000	[r] 22,000	[r] 22,000	22,000
West [3]	339,778	333,799	370,728	393,946	413,773
Norway	21,113	20,059	16,314	19,290	15,807
Poland	21,561	26,588	26,191	29,630	29,564
Spain (blister)	22,318	25,919	23,595	33,141	20,693
Sweden	25,100	[r] 32,050	[r] 31,635	34,271	34,998
U.S.S.R. [e] [5]	720,000	770,000	770,000	830,000	880,000
Yugoslavia	50,421	[r] 55,974	[r] 57,007	[r] 62,742	82,563
Africa:					
Angola	877	112	-----	-----	-----
Congo (Kinshasa)	[r] 327,382	299,097	[r] 304,943	[r] 318,132	347,960
Rhodesia, Southern	13,599	16,187	16,798	[e] 18,900	[e] 18,900
South Africa, Republic of	50,905	60,085	60,090	60,022	126,800
South-West Africa	1,338	22,904	31,428	32,745	36,412
Uganda	17,173	17,875	20,128	18,895	17,745
Zambia	602,302	[r] 636,036	[r] 709,373	755,197	656,452
Asia:					
China [e]	110,000	110,000	110,000	110,000	110,000
India	10,781	10,574	10,422	10,318	10,404
Japan (electrolytic)	[r] 298,098	[r] 325,403	[r] 376,658	[r] 403,095	446,267
Korea:					
North (electrolytic) [e]	11,000	11,000	11,000	13,000	13,000
South	2,436	2,622	3,097	[r] 2,511	4,268
Taiwan	2,745	1,633	1,769	2,078	2,556
Turkey	28,412	27,326	28,639	28,991	29,340
Oceania: Australia	97,818	99,111	[r] 90,259	[r] 82,224	101,084
World total [e]	[r] 5,410,000	[r] 5,535,000	[r] 5,790,000	[r] 6,100 000	6,440,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled from data available June 1967.

[2] Smelter output from domestic and foreign ores, exclusive of scrap. Production from domestic ores only, exclusive of scrap, was as follows: 1962, 1,282,126; 1963, 1,258,126; 1964, 1,301,115; 1965, 1,402,806; and 1966, 1,429,863.

[3] Includes secondary copper.

[4] Belgium reports a large output of refined copper which is believed to be produced principally from crude copper from Congo, (Kinshasa); it is not shown here, as that would duplicate output reported under latter country.

[5] Output from U.S.S.R. in Asia included with U.S.S.R. in Europe.

Table 45.—Canada: Copper production (all sources) by Provinces [1]

(Short tons)

Province	1965	1966 [p]
British Columbia	42,565	57,962
Manitoba	30,807	30,900
New Brunswick	10,082	6,553
Newfoundland	14,823	18,669
Northwest Territories	471	809
Nova Scotia	187	292
Ontario	216,272	202,469
Quebec	173,938	172,717
Saskatchewan	18,732	19,417
Total	507,877	509,788

[p] Preliminary.

[1] Blister copper plus recoverable copper in matte and concentrate exported.

Source: Dominion Bureau of Statistics, Department of Trade and Commerce, Government of Canada. Preliminary Report on Mineral Production, 1966.

Table 46.—Peru: Copper production

(Short tons)

Year	Blister	Refined	Other	Total
1962	125,017	37,940	20,897	183,854
1963	130,398	40,689	24,522	195,609
1964	125,935	41,679	26,883	194,497
1965 [r]	130,250	44,600	23,936	198,786
1966	124,674	41,859	27,908	194,441

[r] Revised.

Source: Bureau of Mines. Mineral Trade Notes.

Table 47.—Europe: Consumption of refined copper

Country	Thousand short tons				
	1962	1963	1964	1965 [r]	1966 [p]
Belgium	72.0	65.7	99.9	108.9	111.9
France	268.7	276.0	321.4	316.4	321.4
Germany, West	551.8	544.0	631.3	605.6	520.0
Italy	235.9	251.3	222.7	213.1	215.1
Spain	55.1	60.6	66.5	65.4	72.3
Sweden	100.4	105.8	106.5	105.1	92.3
Switzerland	44.5	41.8	41.7	44.7	45.3
United Kingdom	579.9	615.1	697.6	716.6	653.1
Other	184.1	184.4	200.5	204.3	197.3
Total	2,092.4	2,144.7	2,388.1	2,380.1	2,228.7

[r] Revised. [p] Preliminary.

Source: British Bureau of Nonferrous Metal Statistics. World Non-Ferrous Metal Statistics. V. 20, No., March 1967.

Table 48.—Finland: Copper production

Mine	Ore (short tons)	Copper concentrate (short tons)	Copper (short tons)
Outokumpu	566,000	92,800	19,900
Ylojarvi	169,300	4,400	1,000
Vihanti	500,000	8,100	2,000
Kotalahti	462,000	4,300	800
Pyhasalmi	666,700	22,800	5,300
Total	2,364,000	132,400	29,000

Table 49.—United Kingdom: Exports and reexports, by countries

(Short tons)

Destination	1965	1966	Destination	1965	1966
Germany, West	9,356	10,395	India	2,472	570
Netherlands	9,283	7,689	Spain	10	533
France	1,689	7,431	Brazil	221	510
China	6,158	6,316	Czechoslovakia	4,919	465
United States	130	5,859	Denmark	320	270
Poland	112	3,628	Canada	6	224
Argentina	4,361	2,478	United Arab Republic (Egypt)	422	134
Belgium	3,467	2,345	Portugal	237	90
Italy	1,064	2,119	Hungary	112	34
Sweden	2,452	1,858	Other countries	1,488	1,710
Australia	2,206	1,146			
Pakistan	207	1,040			
Norway	1,045	797	Total	51,737	57,641

Source: British Bureau of Nonferrous Metal Statistics.

Table 50.—United Kingdom: Imports of copper, by countries

(Short tons)

Country	1965 r			1966		
	Blister	Electrolytic	Fire refined	Blister	Electrolytic	Fire refined
Australia	-----	2,820	-----	-----	5,331	-----
Belgium	-----	9,900	-----	-----	10,722	-----
Canada	-----	111,324	-----	-----	89,208	-----
Chile	41,363	18,504	34,190	30,141	43,649	22,523
Congo (Kinshasa)	-----	3,479	-----	-----	1,988	-----
Germany, West	-----	14,112	1,128	-----	20,068	84
Netherlands	-----	16,125	588	-----	19,648	28
Norway	-----	879	-----	-----	1,430	-----
Peru	13,892	1,733	-----	1,131	303	-----
South Africa, Republic of	-----	986	5,590	2,954	1,076	6,471
Spain	-----	28	-----	-----	1,218	-----
Sweden	-----	9,958	-----	-----	15,045	-----
U.S.S.R.	-----	9,896	-----	-----	9,856	-----
Zambia	[1] 52,619	233,247	-----	[1] 6,906	221,422	-----
Other countries	224	1,546	1,652	103	4,052	58
Total	108,098	434,537	43,148	41,235	445,016	29,164

r Revised.

[1] Includes fire refinable anodes.

Source: British Bureau of Nonferrous Metal Statistics.

Ferroalloys

Table 1.—Ferroalloys produced and shipped from furnaces in the United States

Alloy	1965				1966			
	Production		Shipments		Production		Shipments	
	Gross weight (short tons)	Alloy element contained (average percent)	Gross weight (short tons)	Value (thousands)	Gross weight (short tons)	Alloy element contained (average percent)	Gross weight (short tons)	Value (thousands)
Ferromanganese:[1]								
Blast furnace	810,811	77.6	831,889	$118,717	651,987	78.7	651,678	$89,285
Electric furnace[2]	337,200	78.3	308,878	48,311	294,223	78.5	334,040	56,569
Total	1,148,011	77.8	1,140,767	167,028	946,210	78.7	985,718	145,854
Silicomanganese	240,667	66.0	215,411	31,985	253,134	65.9	281,925	41,120
Ferrosilicon	595,129	53.0	588,122	97,079	575,689	52.2	547,567	93,318
Silvery iron:								
Blast furnace	50,897	10.0	53,617	4,015	255,064	14.6	246,240	19,154
Electric furnace	165,909	16.0	170,634	13,662				
Total	216,806	14.6	224,251	17,677	255,064	14.6	246,240	19,154
Chromium alloys:								
Ferrochromium[3]	301,511	67.9	283,736	80,461	309,786	15.6	309,110	86,033
Other chromium alloys[4]	82,966	40.8	81,217	18,098	134,039	16.9	106,686	22,332
Total	384,477	62.1	364,953	98,559	443,825	----	415,796	108,365
Ferrotitanium	4,324	27.3	4,066	2,641	5,526	28.4	4,854	3,838
Ferrophosphorus	127,779	24.3	139,608	5,437	131,533	24.4	125,053	6,360
Ferrocolumbium and ferrotantalum columbium	1,676	58.5	1,613	5,903	3,341	54.8	3,229	8,353
Ferronickel	26,246	48.3	26,277	60,284	25,265	48.4	24,451	77,188
Other[5]	[r] 64,566	[r] 29.7	57,484		73,196	34.0	63,133	
Grand total	[r] 2,809,681	60.6	2,762,552	486,593	2,712,783	57.5	2,697,966	503,550

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[r] Revised.

[1] Includes briquets.

[2] Includes fused-salt electrolytic.

[3] Includes low- and high-carbon ferrochromium and chromium briquets.

[4] Includes ferrochrome-silicon, exothermic chromium additives, and other chromium alloys.

[5] Includes Alsifer, ferroboron, ferromolybdenum, ferrotungsten, ferrovanadium, simanal, spiegeleisen, zirconium-ferrosilicon, ferrosilicon-zirconium, and other miscellaneous ferroalloys.

Table 2.—Producers of ferroalloys in the United States in 1966

Producer	Plant location	Product[1]	Type of furnace
Agrico Chemical Co.[2]	Pierce, Fla	FeP	Electric
The Anaconda Company	Anaconda, Mont	FeMn	Do
Bethlehem Steel Co	Johnstown, Pa	FeMn	Blast
Chromium Mining and Smelting Corp	Woodstock, Tenn	FeMn, SiMn, FeSi, FeCr	Electric
Climax Molybdenum Co	Langeloth, Pa	FeMo	Aluminothermic
FMC Corp., Mineral Products Division	Pocatello, Idaho	FeP	Electric
The Hanna Furnace Corp	Buffalo, NY	Silvery iron	Blast
Hanna Nickel Smelting Co	Riddle, Oreg	FeSi, FeNi	Electric
Hooker Chemical Corp	Columbia, Tenn	FeP	Do
Interlake Steel Corp	Beverly, Ohio	SiMn, FeSi, FeCr, silvery iron, Si	Do
Jackson Iron & Steel Co	Jackson, Ohio	Silvery iron	Blast
Kawecki Chemical Co	Boyertown, Pa	FeCb	Aluminothermic
Keokuk Electro-Metals Co., Division of Vanadium Corporation of America	Keokuk, Iowa	FeSi, silvery iron	Electric
Do	Wenatchee, Wash	FeSi, Si	Do
E. J. Lavino & Co	Sheridan, Pa; Reusens, Va	FeMn	Blast
Manganese Chemicals Corp	Kingwood, W Va	FeMn	Electric
Mobile Chemical Co., Industrial Chemicals Division	Nichols, Fla; Charleston, SC; Mt. Pleasant, Tenn	FeP	Do
Molybdenum Corporation of America	Washington, Pa	FeMo FeW, FeB, FeCb	Electric and aluminothermic Electric
Monsanto Co	Soda Springs, Idaho; Columbia, Tenn	FeP	Do
The New Jersey Zinc Co	Palmerton, Pa	Spln	Do
Ohio Ferro-Alloys Corp	Brilliant, Ohio	FeSi, FeCr	Do
Do	Philo, Ohio	FeMn, SiMn, FeSi, other[4]	Do
Do	Powhatan Point, Ohio	FeSi, Si	Do
Do	Tacoma, Wash	FeSi, Si	Do
Pittsburgh Metallurgical Co	Niagara Falls, NY	SiMn, FeSi, FeCr, silvery iron	Do
Do	Calvert City, Ky	FeMn, SiMn, FeSi, FeCr, silvery iron	Do
Do	Charleston, SC	FeSi, FeCr, silvery iron	Do
Reading Alloys[3]	Robesonia, Pa	FeV, FeW, FeCb, NiCb, FeMo	Aluminothermic
Shieldalloy Corp	Newfield, NJ	FeV, FeTi, FeB, FeMo, FeCb, FeCbTa, other[4]	Do
Stauffer Chemical Co	Mt. Pleasant, Tenn	FeP	Electric
Tennessee Valley Authority	Muscle Shoals, Ala	FeP	Do
Tenn-Tex Alloy & Chemical Corp	Houston, Tex	FeMn, SiMn	Do
Titanium Alloy Manufacturing, Division National Lead Co	Niagara Falls, NY	FeTi, other	Do
Union Carbide Corp., Mining & Metals Division	Do	FeCr, FeTi, FeW, FeV, FeB, FeCb, FeCbTa, other	Do
Do	Alloy, W Va	FeMn, SiMn, FeSi, FeCr, Si, other	Do
Do		FeV	Aluminothermic
Do	Marietta, Ohio	FeMn, SiMn, FeSi, FeCr	Electric
Do	Ashtabula, Ohio	FeMn, SiMn, FeSi	Do
Do	Sheffield, Ala	FeMn, FeSi	Do
Do	Portland, Oreg	FeMn, SiMn, FeSi	Do
Do	Rockwood, Tenn	FeMn, SiMn, FeSi	Do
United States Steel Corp	Birmingham, Ala; Clairton Pa; Duquesne, Pa	FeMn	Blast
Vanadium Corporation of America	Cambridge, Ohio	FeTi, FeV, FeB, FeCb, other	Electric
Do	Vancoram, Ohio	FeSi, FeCr	Do
Do	Graham, W Va	FeMn, FeSi, FeCr, other	Do
Woodward Iron Co	Woodward, Ala	FeSi	Do

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[1] FeMn, ferromanganese; Spln, spiegeleisen; SiMn, silicomanganese; FeSi, ferrosilicon; FeP, ferrophosphorus; FeCr, ferrochromium; FeMo, ferromolybdenum; FeNi, ferronickel; FeTi, ferrotitanium; FeW, ferrotungsten; FeV, ferrovanadium; FeB, ferroboron; FeCbTa, ferrocolumbium-tantalum; FeCb, ferrocolumbium; NiCb, nickel columbium; Si, silicon metal.

[2] Formerly The American Agricultural Chemical Co.

[3] Formerly Reading Chemicals.

[4] Includes Alsifer, simanal, zirconium alloys, ferrosilicon boron, aluminum silicon alloys, and miscellaneous ferroalloys.

Table 3.—Consumption by major end uses, and stocks, of silicon and alloys in the United States in 1966

(Short tons)

Alloy		Stainless steels	Other alloy steels [1]	Carbon steels	Tool steels	Steel mill rolls	Gray and malleable castings	Aluminum base alloys	High temperature alloys	Other nonferrous alloys	Miscellaneous	Total consumption	Stocks Dec. 31, 1966
Type	Silicon content (percent)												
Silvery pig iron	5–13	-----	338	382	119	797	69,284	-----	125	46	2,292	73,383	5,660
Do	14–20	33	6,470	19,151	-----	179	216,303	-----	-----	17	[2] 3,547	245,700	27,217
Ferrosilicon	[3] 21–55	9,687	80,628	91,467	2,372	1,186	105,189	52	874	3,545	[4] 24,328	319,328	24,660
Do	56–70	360	5,090	18,924	26	-----	2,936	-----	5	-----	[4] 1,558	28,899	1,681
Do	71–80	10,847	17,493	9,514	353	362	13,061	-----	52	78	17,902	69,662	6,360
Do	81–89	182	593	1,952	-----	74	6,595	-----	-----	20	231	9,647	1,195
Do	90–95	17	1,024	421	-----	52	358	3,045	30	-----	-----	4,947	669
Silicon metal	96–99	82	2,493	102	14	30	183	40,959	545	985	[5] 12,697	58,090	4,746
Ferrosilicon briquets	40–50	-----	154	585	-----	48	37,310	-----	-----	-----	232	38,329	5,021
Miscellaneous silicon alloys [6]	-----	324	3,555	5,353	65	840	25,401	120	259	165	7,919	44,001	4,701
Total	-----	21,532	117,838	147,851	2,949	3,568	476,620	44,176	1,890	4,856	70,706	891,986	81,910

[1] Includes quantities of carbon steels because some firms failed to specify individual uses.

[2] Used mainly in high-silicon iron, and to beneficiate ores.

[3] Mainly from 40 to 55 percent silicon.

[4] Used mainly in producing ferronickel.

[5] Used mainly in producing silicones and other chemical compounds.

[6] Includes calcium-silicon, calcium-manganese-silicon, silicon-manganese-zirconium, Ferrocarbo (including briquets), Alsifer, and other miscellaneous silicon alloys.

Table 4.—Consumption by end uses of ferroalloys as additives in the United States in 1966

(Short tons)

Alloy	Stainless steels	Other alloy steels[1]	Carbon steels	Tool steels	Gray and malleable iron castings	Other uses	Total
Ferromanganese[2]	13,149	248,135	801,399	6,145	32,450	16,238	1,117,516
Silicomanganese	11,100	52,059	106,069	1,482	1,780	1,667	174,157
Silicon alloys[3]	21,532	121,406	147,851	2,949	476,620	102,369	872,727
Ferrotitanium	1,739	894	2,389	4	5	216	5,247
Ferrophosphorus	19	5,778	10,090	-----	820	17,586	34,293
Ferroboron	2	84	182	-----	23	8	299
Total	47,541	428,356	1,067,980	10,580	511,698	138,084	2,204,239

[1] Includes steel mill rolls.
[2] Includes spiegeleisen, manganese metal, and briquets.
[3] Includes silicon metal and silvery iron. See table 4 for more detail.

Table 5.—Consumption by end uses of ferroalloys as alloying elements in the United States in 1966

(Short tons of contained element)

Alloy	Stainless steels	Other alloy steels[1]	Carbon steels	High speed steels	Other tool steels[1]	Gray and malleable iron castings	High temperature alloys	Other uses	Total
Ferrochromium[2]	[3] 180,361	52,633	---	998	1,845	4,382	11,702	2,742	254,663
Ferromolybdenum[4]	1,195	[3] 1,182	---	583	219	1,403	433	633	5,648
Ferrotungsten	(5)	[6] 467	---	473	140	-----	54	17	1,151
Ferrovanadium[7]	39	[8] 2,949	818	501	272	38	85	777	5,479
Ferrocolumbium[9]	274	591	180	2	1	-----	266	11	1,325
Ferrotantalum-columbium	8	---	---	---	---	-----	2	9	19
Total	181,877	57,822	998	2,557	2,477	5,823	12,542	4,189	268,285

[1] Includes hot-work and die steels.
[2] Includes other chromium ferroalloys and chromium metal.
[3] Includes quantities believed used in producing high-speed and other tool steels and stainless steels because some firms failed to specify individual uses.
[4] Includes calcium molybdate and molybdenum silicide.
[5] Included with "Other alloy steels."
[6] Includes stainless steels, steel mill rolls, and other alloy steels.
[7] Includes other vanadium-carbon-iron-ferroalloys, and quantities used in high-speed or other tool steels not specified by reporting firms.
[8] Includes steel mill rolls.
[9] See columbium and tantalum chapter for more detail on end uses.

Table 6.—Stocks of ferroalloys held by producers and consumers in the United States, December 31

(Short tons)

Alloy	Producer		Consumer	
	1965, gross weight	1966, gross weight	1965, gross weight	1966, gross weight
Manganese ferroalloys [1]	170,885	123,982	170,657	154,321
Silicon alloys [2]	95,602	88,482	66,676	[3] 81,910
Ferrochromium [4]	42,554	40,496	36,154	37,375
Ferrotitanium	886	1,517	1,402	741
Ferrophosphorus	50,192	50,091	29,051	5,401
Ferroboron	90	154	65	75
Total	360,209	304,722	304,005	279,823
	1965, contained element	1966, contained element	1965, contained element	1966, contained element
Ferromolybdenum [5]	W	W	795	1,491
Ferrotungsten	W	W	153	242
Ferrovanadium	W	W	608	1,693
Ferrocolumbium	156	280	263	400
Ferrotantalum-columbium	W	W	5	7
Total	433	848	1,824	3,833

W Withheld to avoid disclosing individual company confidential data.

[1] Includes ferromanganese, silicomanganese, spiegeleisen, manganese metal and briquets.

[2] Includes ferrosilicon, silvery iron, and miscellaneous silicon alloys. Consumers stocks also include silicon metal.

[3] For more detail see table 4.

[4] Includes other chromium ferroalloys and chromium metal.

[5] Includes calcium molybdate and molybdenum silicide.

Table 7.—U.S. exports of ferroalloys

Alloys	1963		1964		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Ferrocerium and alloys	20	$182	19	$139	27	$221	31	$209
Ferrochromium	2,354	773	10,032	2,504	12,002	3,021	7,647	1,870
Ferromanganese	678	155	3,903	670	3,273	727	545	228
Ferromolybdenum	120	379	873	3,328	r 1,115	4,983	1,100	4,085
Ferrophosphorus	41,361	1,302	163,166	4,938	79,910	2,914	62,942	2,975
Ferrosilicon	3,130	948	5,785	1,232	4,585	1,755	5,812	2,004
Ferrotitanium and ferro-carbon-titanium	211	183	541	392	(1)	(1)	(1)	(1)
Ferrotungsten	1	3	(2)	2	(1)	(1)	(1)	(1)
Ferrovanadium	183	588	103	309	220	747	482	2,209
Spiegeleisen	r 1,176	r 90	r 785	r 59	r (1)	r (1)	(1)	(1)
Ferroalloys not elsewhere classified	r 430	r 263	r 636	r 392	r 8,444	r 3,173	7,301	2,381
Total	49,664	4,866	185,843	13,965	r 109,576	17,541	85,860	15,961

r Revised, due to error in printing.

(1) No longer separately classified, included with ferroalloys not elsewhere classified.

(2) Less than ½ unit.

Table 8.—U.S. imports for consumption of ferroalloys and ferroalloy metals

Alloy	1965 Gross weight (short tons)	1965 Content (short tons)	1965 Value (thousands)	1966 Gross weight (short tons)	1966 Content (short tons)	1966 Value (thousands)
Chromium metal	1,010	(1)	$1,522	2,487	(1)	$3,739
Ferrocerium and other cerium alloys	4	(1)	36	7	(1)	65
Ferrochrome and ferrochromium—						
Containing 3 percent or more carbon	5,350	3,521	855	23,883	15,850	3,336
Containing less than 3 percent carbon	49,772	33,440	12,381	74,111	50,399	18,740
Ferromanganese—						
Containing not over 1 percent carbon	989	884	373	4,614	3,750	1,254
Containing over 1 and less than 4 percent carbon	33,883	26,799	6,220	23,203	18,554	4,540
Containing not less than 4 percent carbon	222,467	170,435	24,893	224,155	172,259	23,661
Ferromolybdenum, molybdenum metal, compounds, alloys, and scrap (molybdenum content)	318	167	948	347	188	1,394
Ferronickel	32	(1)	21	11,898	(1)	4,519
Ferrophosphorus	61	(1)	5	130	(1)	9
Ferrosilicon	16,493	4,558	1,606	30,405	13,133	4,610
Ferrosilicon chromium	2,366	(1)	363	2,252	(1)	324
Ferrosilicon manganese (manganese content)	17,491	11,601	1,913	35,771	24,046	4,168
Ferrotitanium and ferrosilicon titanium	17	(1)	12	30	(1)	21
Ferrotungsten and ferrosilicon tungsten	242	193	404	236	190	696
Ferrovanadium	26	(1)	73	10	(1)	40
Ferrozirconium	55	(1)	24	469	(1)	185
Manganese metal	1,384	(1)	559	2,020	(1)	837
Tungsten alloys (unwrought) and scrap (tungsten content)	3	1	2	39	12	57
Tungsten metal (lump, grains, or powder) and tungsten carbide (tungsten content)	(1)	22	115	(1)	26	170
Tungstic acid and other alloys of tungsten not specifically provided for (tungsten content)	319	187	332	161	100	354
Ferroalloys, not elsewhere classified	404	(1)	979	781	(1)	2,352

[1] Not recorded.

Table 9.—U.S. imports for consumption of ferromanganese and ferrosilicon, by countries

Country	Ferromanganese (manganese content) excluding silicon manganese				Ferrosilicon (silicon content)			
	1965		1966		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
North America: Canada	5,640	$1,045	4,191	$1,063	2,022	$744	2,515	$826
South America:								
Brazil	430	61	---	---	---	---	---	---
Chile	557	88	137	27	---	---	---	---
Peru	20	3	---	---	---	---	---	---
Europe:								
Belgium-Luxembourg	12,751	1,839	16,653	2,348	---	---	---	---
France	52,847	7,501	46,970	6,510	1,060	223	2,832	1,160
Germany, West	25,707	3,530	39,855	5,594	78	87	1,912	1,055
Italy	1,115	280	1,297	312	58	15	192	53
Netherlands	680	92	---	---	---	---	---	---
Norway	175	21	11,538	1,640	697	125	3,896	752
Spain	5,068	928	1,283	170	---	---	---	---
Sweden	---	---	3,250	612	---	---	---	---
United Kingdom	8,468	1,165	15,198	2,103	---	---	---	---
Yugoslavia	705	96	---	---	---	---	---	---
Africa:								
Mozambique	---	---	1,745	244	---	---	---	---
South Africa, Republic of	26,667	3,689	20,608	2,863	87	15	697	133
Zambia, Southern Rhodesia, and Malawi	46	6	---	---	---	---	---	---
Asia:								
India	48,990	8,932	10,001	1,911	---	---	---	---
Japan	8,252	2,210	11,577	2,841	556	397	1,089	631
Oceania: Australia	---	---	10,260	1,217	---	---	---	---
Total	198,118	31,486	194,563	29,455	4,558	1,606	13,133	4,610

Gold

Table 1.—Salient gold statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production thousand troy ounces	1,670	1,543	1,454	1,456	1,705	1,803
Value thousands	$58,456	$53,990	$50,889	$50,971	$59,682	$63,119
Ore (dry and siliceous) produced:						
Gold ore thousand short tons	2,277	2,159	2,459	2,631	3,113	3,447
Gold-silver ore do	191	353	223	224	206	248
Silver ore do	631	524	556	542	752	669
Percentage derived from—						
Dry and siliceous ores	47	47	51	54	54	58
Base-metal ores	35	36	36	37	40	37
Placers	18	17	13	9	6	5
Refinery production thousand troy ounces	1,688	1,556	1,469	1,469	1,675	1,802
Exports [1] do	5,587	10,884	5,820	12,078	36,717	13,067
Imports, general [1] do	7,049	4,312	1,281	1,169	2,905	1,200
Stocks Dec. 31: Monetary [2] millions	$19,539	$16,057	$15,596	$15,471	$13,806	$13,235
Consumption in industry and the arts thousand troy ounces	2,316	3,576	2,920	4,801	5,276	6,062
Price: Average per troy ounce [3]	$35.00	$35.00	$35.00	$35.00	$35.00	$35.00
World: Production thousand troy ounces	36,310	41,600	43,550	45,250	46,700	47,000
Official reserves [4] millions	$40,229	$41,470	$42,310	$43,060	$43,300	$43,205

[1] Excludes coinage.
[2] Includes gold in Exchange Stabilization Fund.
[3] Price under authority of Gold Reserve Act of Jan. 31, 1934.
[4] Held by free world central banks and governments.

Table 2.—Mine production of recoverable gold in the United States, by months

(Troy ounces)

Month	1965	1966	Month	1965	1966
January	117,970	150,316	August	151,626	152,887
February	115,827	143,927	September	162,102	150,952
March	130,564	151,043	October	155,553	148,844
April	140,212	147,339	November	152,604	146,224
May	135,095	158,098	December	154,455	152,222
June	141,061	149,756			
July	148,121	151,812	Total	1,705,190	1,803,420

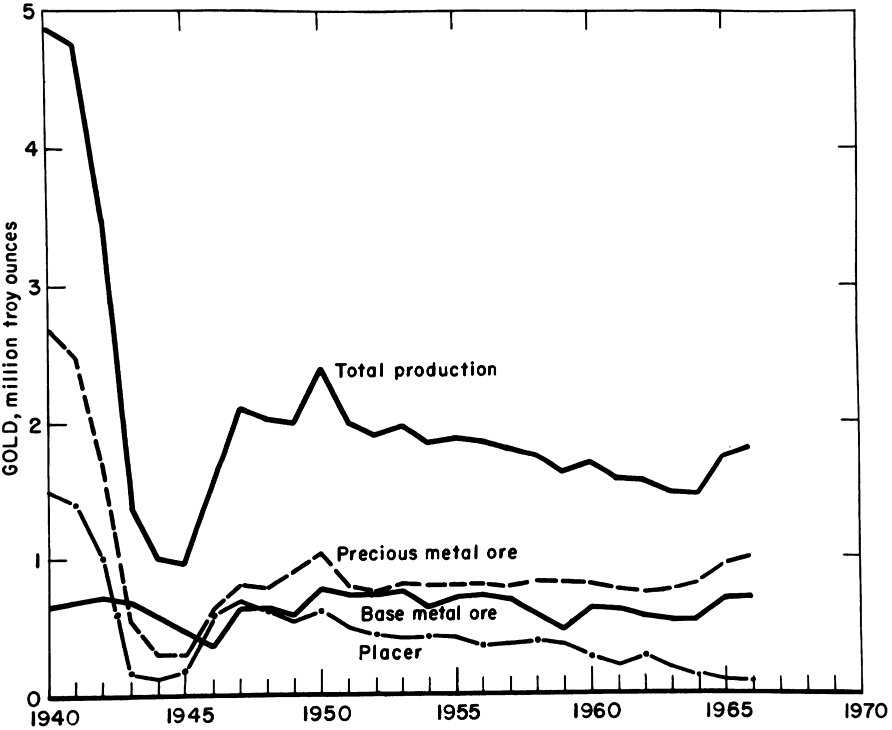

Figure 1.—Gold production in the United States.

Table 3.—Twenty-five leading gold-producing mines in the United States in 1966 in order of output

Rank	Mine	State	County	Operator	Source of gold
1	Homestake	South Dakota	Lawrence	Homestake Mining Co.	Gold ore.
2	Utah Copper	Utah	Salt Lake	Kennecott Copper Corp.	Copper, gold-silver ores.
3	Carlin	Nevada	Eureka	Carlin Gold Mining Co.	Gold ore.
4	Getchell	do	Humboldt	The Goldfield Corp	Do.
5	Knob Hill	Washington	Ferry	Knob Hill Mines, Inc.	Do.
6	Mayflower	Utah	Wasatch	Hecla Mining Co	Copper-lead-zinc ore.
7	Yuba Unit	California	Yuba	Yuba Consolidated Gold Fields.	Placer.
8	Copper Queen-Lavender Pit.	Arizona	Cochise	Phelps Dodge Corp	Copper ore.
9	New Cornelia	do	Pima	do	Copper, gold-silver ores.
10	Liberty Pit	Nevada	White Pine	Kennecott Copper Corp.	Copper ore, copper slag.
11	Idarado	Colorado	Ouray and San Miguel.	Idarado Mining Co	Copper-lead-zinc ore.
12	San Manuel	Arizona	Pinal	Magma Copper Co	Copper ore.
13	Gold King	Washington	Wenatchee River	L-D Mines	Gold ore.
14	Berkeley Pit	Montana	Silver Bow	The Anaconda Company.	Copper ore.
15	Iron King	Arizona	Yavapai	Shattuck Denn Mining Corp.	Lead-zinc ore.
16	Magma	do	Pinal	Magma Copper Co	Copper, gold-silver ores.
17	Morenci	do	Greenlee	Phelps Dodge Corp	Do.
18	Hogatza River	Alaska	Yukon River Region.	United States Smelting, Refining and Mining Co.	Placer.
19	U. S. and Lark	Utah	Salt Lake	do	Lead-zinc, lead ores.
20	Chicken Creek	Alaska	Yukon River Region.	do	Placer.
21	85	New Mexico	Hidalgo	Diversified Mines, Inc.	Gold-silver ore.
22	Atlanta	Nevada	Lincoln	Eugene Jordan Associates.	Gold ore.
23	Butte Hill Copper Mines.	Montana	Silver Bow	The Anaconda Company.	Copper ore.
24	Christmas	Arizona	Gila	Inspiration Consolidated Copper Co.	Do.
25	Chino	New Mexico	Grant	Kennecott Copper Corp.	Do.

Table 4.—Production of gold in the United States, by sources, in 1966

(Troy ounces)

State	Placers	Dry ore	Copper ore	Lead and zinc ores	Complex base metal ores	Other sources [1]	Total	Refinery production [2]
Alaska	26,532	790	-----	3	-----	-----	27,325	27,070
Arizona	(3)	[3] 284	127,431	20	13,647	1,146	142,528	140,000
California	63,121	1,257	1	84	126	175	64,764	64,600
Colorado	1,374	643	730	632	28,512	24	31,915	30,140
Idaho	67	1,439	1,502	1,371	653	24	5,056	4,170
Montana	423	1,407	19,635	2,722	119	703	25,009	29,000
Nevada	310	336,380	28,539	58	291	1,325	366,903	361,100
New Mexico	-----	4,082	3,725	810	572	106	9,295	13,600
North Carolina	-----	-----	-----	-----	-----	-----	-----	-----
Oregon	(4)	[4] 281	(4)	-----	-----	-----	281	170
Pennsylvania	-----	(5)	-----	(5)	-----	(5)	(5)	15
South Dakota	-----	606,467	-----	-----	-----	-----	606,467	633,900
Tennessee	-----	-----	-----	-----	141	-----	141	125
Utah	-----	1,613	364,928	51	72,133	11	438,736	413,900
Washington [5]	-----	83,783	-----	3	-----	1,214	85,000	83,800
Wyoming	-----	-----	-----	-----	-----	-----	-----	-----
Total	91,827	1,038,426	546,491	5,754	116,194	4,728	1,803,420	[6] 1,801,600
Percent	5	58	30	(7)	6	(7)	100	-----

[1] Gold recovered from mill and smelter cleanup, slags, tailings, and as a byproduct of magnetite-pyrite, tungsten, and uranium ores.

[2] U.S. Bureau of the Mint.

[3] Placers and dry ore combined to avoid disclosing individual company confidential data.

[4] Placer and copper ore combined with dry ore to avoid disclosing individual company confidential data.

[5] Production of Pennsylvania and Washington combined to avoid disclosing individual company confidential data.

[6] Includes refinery production from South Carolina 3 ounces and Texas 7 ounces.

[7] Less than 0.5 percent.

Table 5.—Ore, old tailings, etc., yielding gold produced in the United States, and average recoverable content, in troy ounces of gold per ton in 1966

State	Gold		Gold-silver		Silver		Copper	
	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton
Alaska	5,752	0.137	-----	-----	-----	-----	-----	-----
Arizona	26	.423	140,041	0.008	12,651	0.011	87,399,084	0.001
California	3,815	.256	2,650	.127	358	.045	7	.143
Colorado	2,134	.086	2,049	.192	1,691	.048	8,787	.083
Idaho	3,072	.149	1	4.000	473,869	.002	72,002	.021
Montana	1,114	.420	4,240	.202	31,267	.025	16,595,411	.001
Nevada	1,255,093	.268	-----	-----	25,802	.004	10,109,949	.003
New Mexico	[3] 1	[1] 106.000	61,543	.066	1,851	.003	8,235,898	-----
South Dakota	2,002,239	.303	-----	-----	-----	-----	-----	-----
Tennessee	-----	-----	-----	-----	-----	-----	-----	-----
Utah	-----	-----	37,635	.019	121,754	.007	33,592,716	.011
Other States[2]	173,857	.482	-----	-----	5	.600	25	.800
Total	3,447,103	.299	248,159	.030	669,248	.005	156,013,879	.004

State	Lead		Zinc		Lead-zinc, copper-zinc, and copper-lead-zinc		Total material	
	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton	Short tons	Average ounces of gold per ton
Alaska	44	0.068	-----	-----	-----	-----	5,796	0.137
Arizona	1,506	.011	1,623	0.002	340,100	0.040	87,895,031	[3] .002
California	8,935	.009	-----	-----	9,087	.014	24,852	[4] .066
Colorado	4,074	.040	231,514	.002	835,140	.034	1,085,389	.028
Idaho	252,040	.005	35,064	-----	807,276	.001	1,643,324	.003
Montana	17,465	.038	926,114	.002	621	.195	17,576,232	.001
Nevada	2,656	.020	1,234	.003	311,015	.001	11,705,749	.031
New Mexico	236	.025	376,907	.002	100,760	.006	8,777,196	.001
South Dakota	-----	-----	-----	-----	-----	-----	2,002,239	.303
Tennessee	-----	-----	-----	-----	1,591,170	-----	1,591,170	-----
Utah	2,252	.023	21,850	-----	657,390	.110	34,433,597	.013
Other States[2]	-----	-----	104,344	-----	-----	-----	[5] 847,610	.100
Total	289,208	.008	1,698,650	.002	4,652,559	.025	167,588,185	.010

[1] Gold cleanup.

[2] Includes Oregon, Pennsylvania, and Washington.

[3] Includes byproduct gold from uranium ore.

[4] Includes byproduct gold from tungsten ore.

[5] Includes magnetite-pyrite ore from Pennsylvania.

Table 6.—Gold produced in the United States from ore and old tailings, etc., in 1966 by States and methods of recovery, in terms of recoverable metal

State	Total ore, old tailings, etc., treated (thousand short tons) [1]	Ore and old tailings to mills					Crude ore, old tailings, etc. to smelters	
			Recoverable in bullion		Concentrates smelted and recoverable metal			
		Thousand short tons	Amalgamation (troy ounces)	Cyanidation (troy ounces)	Concentrates (short tons)	Troy ounces	Thousand short tons	Troy ounces
Alaska	7	7	761	-----	95	29	(2)	3
Arizona	99,704	99,155	-----	-----	2,913,542	132,471	549	10,034
California	25	8	635	-----	3,347	766	17	242
Colorado	1,225	1,213	7,827	-----	156,653	21,785	12	929
Idaho	1,995	1,936	110	-----	228,045	4,682	59	197
Montana	17,645	17,527	-----	-----	494,406	21,952	118	2,634
Nevada	16,223	16,129	261,593	74,356	321,625	29,040	94	1,604
New Mexico	8,779	8,655	-----	-----	392,051	5,102	124	4,193
South Dakota	2,002	2,002	422,155	184,312	-----	-----	-----	-----
Tennessee	4,989	4,989	-----	-----	275,553	141	-----	-----
Utah	34,434	34,163	-----	-----	934,091	436,932	271	1,804
Other States [3]	2,396	2,394	12	-----	122,000	84,603	2	448
Total	189,424	188,178	693,093	258,668	5,841,408	737,503	1,246	22,088

[1] Includes some non-gold-bearing ores not separable.
[2] Less than ½ unit.
[3] Includes Oregon, Pennsylvania, and Washington.

Table 7.—Gold produced at amalgamation and cyanidation mills in the United States and percentage of gold recoverable from all sources

Year	Bullion and precipitates recoverable (troy ounces)		Gold from all sources (percent)			
	Amalgamation	Cyanidation	Amalgamation	Cyanidation	Smelting [1]	Placers
1957–61 (average)	442,894	226,978	26.5	13.6	41.5	18.4
1962	455,412	173,386	29.5	11.2	42.1	17.2
1963	437,264	218,212	30.1	15.0	42.2	12.7
1964	453,736	254,771	31.2	17.5	42.7	8.6
1965	460,271	392,171	27.0	23.0	44.2	5.8
1966	693,093	258,668	38.5	14.3	42.1	5.1

[1] Crude ores and concentrates.

Table 8.—Gold production at placer mines in the United States, by methods of recovery

Method and year	Mines producing	Washing plants	Material treated (thousand cubic yards)	Gold recoverable		
				Thousand troy ounces	Value (thousands)	Average value per cubic yard
Bucketline dredging:						
1957–61 (average)	17	28	38,690	248	$8,677	$0.224
1962	20	22	25,590	242	8,456	.330
1963	17	22	18,431	161	5,651	.307
1964	13	13	14,382	103	3,604	.251
1965	9	11	13,685	83	2,889	.211
1966	9	11	13,384	75	2,631	.197
Dragline dredging:						
1957–61 (average)	14	15	284	1	52	.182
1962	13	13	532	1	47	.088
1963	11	11	266	2	70	.265
1964	19	13	195	2	68	.350
1965	10	11	[1] 632	[2] 2	57	.090
1966	9	9	[1] 227	[2] 2	70	.308
Hydraulicking:						
1957–61 (average)	33	17	187	3	95	.510
1962	21	21	124	2	83	.669
1963	12	12	43	1	45	1.056
1964	11	11	30	(3)	10	.323
1965	6	6	4	(3)	3	.750
1966	4	4	41	(3)	9	.211
Nonfloating washing plants:						
1957–61 (average)	90	97	1,851	53	1,861	1.005
1962	45	45	839	16	551	.657
1963	50	67	[1] 638	[2] 14	499	.782
1964	55	49	[1] 585	[2] 14	489	.836
1965	48	64	[1] 501	[2] 11	391	.779
1966	41	59	[1] 548	[2] 13	456	.834
Underground placer, small-scale hand methods, and suction dredge:						
1957–61 (average)	90	40	79	2	80	1.020
1962	74	74	314	4	128	.408
1963	133	82	139	6	194	1.403
1964	87	56	49	6	212	4.292
1965	70	48	68	4	140	2.059
1966	57	23	26	2	56	2.159
Total placers:						
1957–61 (average)	245	198	41,090	308	10,765	.262
1962	173	175	27,399	265	9,265	.338
1963	223	194	19,517	184	6,459	.331
1964	185	142	15,241	125	4,383	.287
1965	143	140	14,890	100	3,480	.234
1966	120	106	14,226	92	3,222	.227

---

[1] Excludes tonnage of material treated at commercial sand and gravel operations recovering byproduct gold.
[2] Includes gold recovered at commercial sand and gravel operations recovering byproduct gold.
[3] Less than ½ unit.

Table 9.—Gold consumption in industry and the arts, in the United States

(Thousand troy ounces)

Year	Issued for industrial use	Returned from industrial use	Net industrial consumption
1957–61 (average)	3,126	810	2,316
1962	4,486	910	3,576
1963	4,252	1,332	2,920
1964	5,887	1,086	4,801
1965	6,551	1,275	5,276
1966	7,774	1,712	6,062

Source: U. S. Bureau of the Mint.

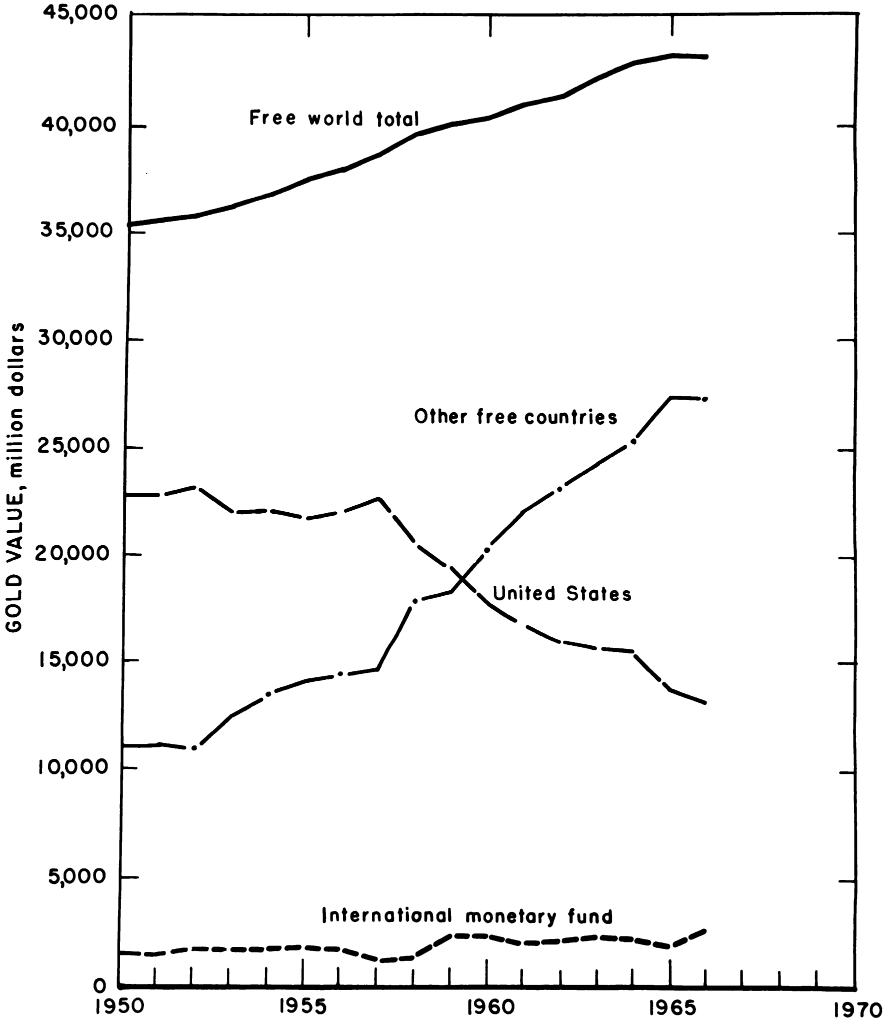

Figure 2.—Gold reserves of free world central banks and Governments.

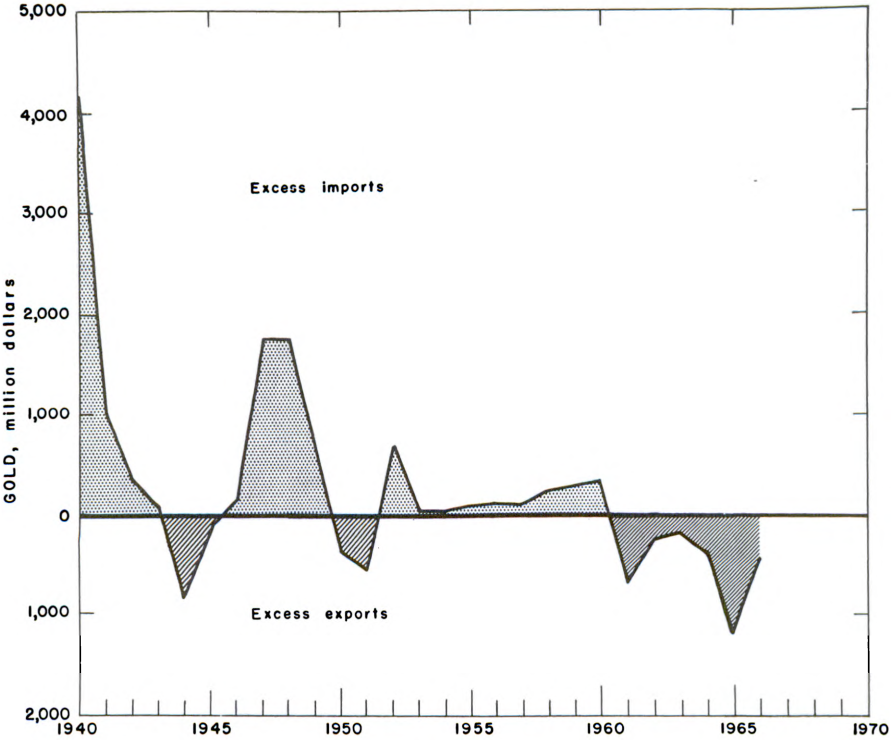

Figure 3.—Net exports or imports of gold.

Table 10.—U.S. exports of gold in 1966, by countries

Destination	Ore and base bullion		Refined bullion	
	Troy ounces	Value (thousands)	Troy ounces	Value (thousands)
North America: Bahamas	---	---	4	(1)
South America: Chile	---	---	4,777	$167
Europe:				
Belgium-Luxembourg	1,480	$52	1,000	35
France	---	---	12,538,761	438,857
Germany, West	1,536	54	---	---
United Kingdom	46,101	1,613	3,666	128
Asia:				
Lebanon	---	---	308,572	10,800
Taiwan	---	---	16	1
Viet-Nam, South	---	---	160,753	5,626
Total	49,117	1,719	13,017,549	455,614

[1] Less than ½ unit.

Table 11.—U.S. imports of gold in 1966, by countries

Country	Ore and base bullion		Refined bullion	
	Troy ounces	Value (thousands)	Troy ounces	Value (thousands)
North America:				
British Honduras	48	$2	---	---
Canada	47,634	1,669	21,477	$737
El Salvador	236	8	634	22
Honduras	3,516	123	397	14
Mexico	35,509	1,243	---	---
Nicaragua	20,347	708	40,834	1,425
Panama	15	1	---	---
South America:				
Bolivia	1,884	66	---	---
Chile	42,916	1,552	---	---
Colombia	1,105	39	372,462	13,014
Ecuador	8,324	289	---	---
Peru	37,399	1,308	315	11
Venezuela	---	---	161	6
Europe:				
Austria	---	---	10	(1)
Belgium-Luxembourg	6,091	213	15,043	527
France	---	---	137	5
Germany, West	1,612	56	2,217	78
Netherlands	---	---	130	5
Norway	45	2	---	---
Sweden	201	7	---	---
Switzerland	240	8	10	(1)
United Kingdom	979	34	47,562	1,668
Africa:				
Kenya	544	19	---	---
South Africa, Republic of	2,670	98	---	---
Uganda	37	1	---	---
Asia:				
Japan	---	---	69,819	2,444
Philippines	93,872	3,291	295,718	10,350
Oceania: Australia	27,895	961	---	---
Total	333,119	11,698	866,926	30,306

(1) Less than ½ unit.

Table 12.—Value of gold imported into and exported from the United States

(Thousand dollars)

Year	Imports	Exports	Year	Imports	Exports
1957–61 (average)	$251,603	$195,587	1964	$40,888	$422,744
1962	150,932	380,962	1965	101,669	1,285,097
1963	44,414	203,784	1966	42,004	457,333

Table 13.—World production of gold by countries [1]

(Troy ounces)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	4,178,396	[r] 4,003,127	3,799,278	3,587,168	3,273,905
Central America and West Indies:					
Costa Rica [e]	3,000	3,000	3,000	570	570
Cuba [3]	---	61	---	---	---
El Salvador [3]	692	230	390	290	236
Haiti	7,149	6,778	8,090	6,719	5,071
Honduras [3]	2,132	2,474	3,319	3,546	3,516
Nicaragua	221,984	204,769	225,581	198,152	199,108
Mexico	236,758	237,948	209,976	215,796	190,815
United States [4]	1,542,511	1,454,010	1,456,308	1,705,190	1,803,420
South America:					
Argentina	827	313	303	[r] 84	55
Bolivia	[r] 35,034	[r] 153,019	[r] 128,576	[r] 94,314	86,982
Brazil [5]	127,156	131,979	142,492	161,044	[e] 207,565
Chile	65,009	[r] 77,294	64,993	[r] 57,329	74,514
Colombia	396,827	324,514	364,991	319,362	275,267
Ecuador	20,591	21,041	17,681	[r] 11,512	10,901
French Guiana	5,273	6,993	4,832	---	632
Guyana	1,903	2,847	2,111	2,077	3,045
Peru	122,985	101,018	92,503	[r] 105,183	94,978
Surinam	[r] 2,598	3,548	8,258	6,269	5,159
Venezuela	28,774	26,947	33,536	[r] 23,660	18,872
Europe: [1]					
Finland	15,239	20,416	22,055	18,037	15,465
France	51,088	53,627	54,303	[r] 57,389	[e] 55,000
Germany, West	1,704	[r] 2,048	[r] 2,402	[r] 1,865	[e] 1,800
Portugal	21,927	21,895	21,316	[r] 21,541	18,400
Spain	6,687	15,625	23,534	8,809	[e] 450
Sweden	128,635	[r] 115,164	[r] 117,672	[r] 116,064	[e] 115,000
U.S.S.R. [e] [6]	[r] 4,080,000	[r] 4,370,000	[r] 4,650,000	[r] 5,030,000	5,370,000
Yugoslavia	70,507	83,656	106,773	[r] 103,911	[e] 104,500
Africa:					
Angola	77	37	7	2	---
Botswana	288	142	10	---	---
Cameroon	579	1,865	739	[r] 1,286	900
Central African Republic	100	96	75	[r] 23	48
Congo (Brazzaville)	3,729	[r] 2,954	3,567	[r] 3,697	4,080
Congo (Kinshasa)	203,707	214,574	188,693	[r] 90,408	158,632
Ethiopia	28,015	[e] 27,300	[e] 27,300	24,236	[e] 24,000
Gabon, Republic of	16,300	35,719	42,760	37,134	34,466
Ghana	888,038	921,255	864,917	755,191	684,395
Kenya	9,327	10,193	12,480	11,420	11,988
Liberia [7]	2,184	1,960	1,824	1,701	4,351
Malagasy Republic	325	900	440	598	852
Mozambique	91	29	40	[r] 32	11
Nigeria	384	316	244	80	61
Rhodesia, Southern	554,647	566,277	575,386	544,100	[e] 550,000
Rwanda	29	NA	NA	NA	NA
Sierra Leone	30	44	49	NA	NA
South Africa, Republic of	25,491,993	27,431,956	29,111,524	30,553,874	30,879,700
South-West Africa	183	3	32	14	---
Sudan	932	868	877	300	200
Swaziland	2,214	2,092	2,078	1,619	308
Tanzania	101,972	102,917	93,040	90,819	55,473
Uganda	291	48	24	36	3
Upper Volta	39,770	44,786	32,665	[r] 32,504	16,075
Zambia	5,326	4,960	5,033	5,196	[e] 5,000
Asia:					
Burma [e]	200	200	200	200	200
Cambodia	965	6,687	[e] 6,000	[e] 4,500	[e] 4,000
China, mainland [e]	60,000	60,000	60,000	60,000	60,000
India	163,326	[r] 138,409	148,504	130,628	120,244
Indonesia	4,469	4,437	[r] 5,813	6,752	4,128
Japan [8]	286,593	262,142	253,300	[r] 264,842	[e] 254,345
Korea:					
North	160,000	160,000	160,000	160,000	160,000
South	106,548	90,095	[r] 75,791	[r] 62,836	60,765
Malaysia:					
Malaya	[r] 6,924	9,116	[r] 7,296	3,982	2,959
Sarawak	2,885	2,773	3,115	2,602	2,611
Philippines	423,394	376,006	425,770	435,545	452,672
Taiwan	24,026	31,710	17,660	32,148	41,805

See footnotes at end of table.

Table 13.—World production of gold by countries [1]—Continued

(Troy ounces)

Country	1962	1963	1964	1965	1966 [p] [2]
Oceania:					
Australia	1,068,837	1,023,970	[r] 963,834	[r] 924,392	912,385
British Solomon Islands	18	240	101	310	NA
Fiji	87,354	107,262	100,493	109,095	112,567
New Guinea	39,007	43,552	38,934	32,439	28,068
New Zealand	21,742	14,206	8,948	12,136	8,965
Papua	45	47	43	55	38
World total [e]	[r] 41,600,000	[r] 43,550,000	[r] 45,250,000	[r] 46,700,000	47,000,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Gold is also produced in Bulgaria, Czechoslovakia, and Rumania but production data are not available; estimates for these countries are included in the total. East Germany, Hungary, and Thailand probably produce a negligible amount of gold. For some countries accurate figures are not possible to obtain owing to clandestine trade in gold (as, for example, in former French West Africa).

[2] Compiled mostly from data available July 1967.

[3] Imports into the United States.

[4] Mine production.

[5] Mined gold only; production of alluvial gold unknown.

[6] Output from U.S.S.R. in Asia included with U.S.S.R. in Europe.

[7] Year ending August 31 of year stated.

[8] Refinery production for Japan is as follows: 1962, 420,956 ounces; 1963, 432,572 ounces; 1964, 460,171 ounces; 1965, 519,170 ounces; and 1966, 555,468 ounces.

Table 14.—Canada: Geographical distribution of gold production

(Troy ounces)

Province or Territory	1965	1966
Atlantic Provinces	27,429	27,321
Quebec	923,432	933,856
Ontario	1,925,934	1,640,069
Prairie Provinces	110,464	99,641
British Columbia	118,948	118,898
Yukon Territory	44,054	42,061
Northwest Territory	436,907	412,059
Total	3,587,168	3,273,905

Source: Dominion Bureau of Statistics.

Iron Ore

Table 1.—Salient iron ore statistics

(Thousand long tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Iron ore (usable;[1] less than 5 percent Mn):						
Production[2]	78,849	71,829	73,599	84,836	87,439	90,147
Shipments[3]	76,990	69,969	73,564	84,300	84,079	90,041
Value[3]	$664,711	$618,242	$678,181	$802,331	[r] 801,388	$854,134
Average value at mines per ton	$8.66	$8.84	$9.22	$9.52	[r] $9.53	$9.49
Exports	4,355	5,898	6,812	6,963	7,085	7,779
Value	$45,680	$62,847	$76,340	$79,670	$80,418	$92,157
Imports for consumption	31,439	33,409	33,263	42,408	45,103	46,259
Value	$280,252	$324,573	$323,158	$421,288	$443,788	$462,354
Consumption	104,448	99,562	112,535	132,328	131,888	134,047
Stocks Dec. 31:						
At mines	8,726	11,614	11,099	[3] 10,241	[3] 12,667	[3] 12,055
At consuming plants	56,050	59,553	54,971	54,189	53,799	54,658
At U.S. docks	6,250	6,429	5,347	3,741	2,494	2,707
Manganiferous iron ore (5 to 35 percent Mn):						
Shipments	489	302	485	213	333	246
World: Production	453,226	499,710	515,090	572,364	608,202	618,609

[r] Revised.

[1] Direct shipping ore, washed ore, concentrates, agglomerates, and byproduct pyrites cinder and agglomerate.

[2] Includes byproduct ore.

[3] Excludes byproduct ore.

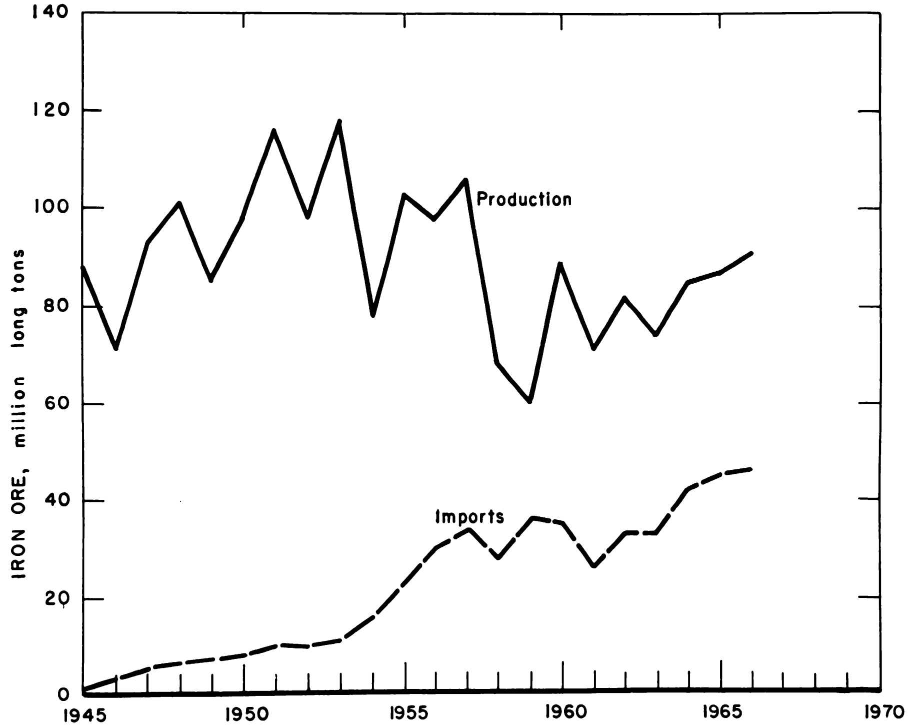

Figure 1.—United States iron ore production and imports for consumption.

Table 2.—Employment at iron ore mines and beneficiating plants, quantity and tenor of ore produced and average output per man in 1965, by districts and States

District and State	Employment				Production[1]				Shipments		
							Average per man-shift			Iron contained	
	Average number of men employed	Average number of days	Total man-shifts (thousands)	Hours (thousands)	Crude ore (thousand long tons)	Usable ore (thousand long tons)	Crude ore (long tons)	Usable ore (long tons)	Usable ore (thousand long tons)	Thousand long tons	Percent (natural)
Lake Superior:											
Michigan	3,859	282	1,089	8,710	23,904	14,322	22	13	13,527	7,869	58
Minnesota	9,689	285	2,764	22,150	113,927	52,054	41	19	50,873	28,766	57
Wisconsin	98	20	2	16	56	56	28	28	141	79	56
Total	13,646	282	3,855	30,876	137,887	66,432	36	17	64,541	36,714	57
Southeastern States:											
Alabama	789	219	173	1,488	4,103	1,540	24	9	1,495	612	41
Georgia	171	272	46	360	1,697	424	37	9	424	187	44
Total	960	229	219	1,848	5,800	1,964	26	9	1,919	799	42
Northeastern States:											
New Jersey, New York, Pennsylvania	2,575	271	697	5,691	12,206	5,173	18	7	4,758	3,035	64
Western States:											
Arizona, New Mexico, Texas	237	237	56	448	W	W	W	W	W	W	W
California	1,166	260	304	2,429	W	W	W	W	W	W	W
Colorado	11	263	3	23	115	115	38	38	114	73	64
Idaho	8	224	2	14	W	W	W	W	9	4	44
Missouri	1,122	295	331	2,687	2,831	1,869	9	6	1,784	1,173	66
Nevada	103	260	27	214	1,301	W	48	W	1,141	703	62
Utah	313	236	74	592	2,303	2,147	31	29	2,139	1,141	53
Wyoming	623	315	196	1,571	4,535	2,147	23	11	2,087	1,187	57
Undistributed (includes byproduct ore)	9	141	1	10	10,963	7,995	28	21	6,839	4,079	60
Total	3,592	277	994	7,988	22,048	14,273	22	14	14,113	8,360	59
Grand total	20,773	278	5,765	46,403	177,941	87,842	31	15	85,331	48,908	57

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Includes manganese-bearing ore in the Lake Superior district.

Table 3.—Crude iron ore mined in the United States, by districts, States, and varieties

(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

District and State	1965					1966				
	Number of mines	Hematite	Brown ore	Magnetite	Total	Number of mines	Hematite	Brown ore	Magnetite	Total
Lake Superior:										
Michigan	21	W	-----	W	23,904	17	W	-----	W	24,820
Minnesota	74	r 57,703	r 1,031	55,193	113,927	59	52,376	1,404	62,298	116,078
Wisconsin	1	56	-----	-----	56	-----	-----	-----	-----	-----
Total	96	W	r 1,031	W	137,887	76	W	1,404	W	140,898
Southeastern States:										
Alabama	24	759	3,344	-----	4,103	19	778	3,390	-----	4,168
Georgia	17	-----	1,697	-----	1,697	17	-----	1,645	-----	1,645
Total	41	759	5,041	-----	5,800	36	778	5,035	-----	5,813
Northeastern States:										
New Jersey, New York, Pennsylvania	7	-----	-----	12,206	12,206	7	-----	-----	11,355	11,355
Western States:										
Arizona	3	W	-----	W	W	3	W	-----	W	W
California	4	W	-----	W	W	3	W	-----	W	W
Colorado	3	-----	W	W	W	3	-----	W	W	W
Idaho	3	W	-----	W	W	3	W	-----	W	W
Mississippi	1	-----	W	-----	W	1	-----	W	-----	W
Missouri	3	-----	92	2,739	2,831	6	-----	87	2,782	2,869
Montana	1	-----	-----	9	9	1	-----	-----	12	12
Nevada	5	W	-----	W	1,301	6	W	-----	W	1,224
New Mexico	1	-----	-----	17	17	3	-----	-----	15	15
Texas	5	-----	W	-----	W	6	-----	W	-----	W
Utah	6	W	-----	W	2,303	6	W	-----	W	2,064
Wyoming	4	W	-----	W	4,535	4	W	-----	W	5,007
Undistributed	-----	W	1,792	W	11,052	-----	W	2,218	W	13,122
Total	39	W	1,884	W	22,048	45	W	2,305	W	24,313
Grand total	183	r 80,235	r 7,956	89,750	177,941	164	74,552	8,744	99,083	182,379

r Revised.

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 4.—Crude iron ore mined in the United States, by districts, States, and mining methods
(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

District and State	1965			1966		
	Open pit	Underground	Total	Open pit	Underground	Total
Lake Superior:						
Michigan	17,342	6,562	23,904	18,248	6,572	24,820
Minnesota	112,664	1,263	113,927	114,851	1,227	116,078
Wisconsin	-----	56	56	-----	-----	-----
Total	130,006	7,881	137,887	133,099	7,799	140,898
Southeastern States:						
Alabama	3,444	659	4,103	3,390	778	4,168
Georgia	1,697	-----	1,697	1,645	-----	1,645
Total	5,141	659	5,800	5,035	778	5,813
Northeastern States:						
New Jersey, New York, Pennsylvania	W	W	12,206	W	W	11,355
Western States:						
Arizona	W	-----	W	W	-----	W
California	W	-----	W	W	-----	W
Colorado	115	-----	115	163	-----	163
Idaho	W	-----	W	W	-----	W
Mississippi	W	-----	W	W	-----	W
Missouri	299	2,532	2,831	264	2,605	2,869
Montana	9	-----	9	12	-----	12
Nevada	W	W	1,301	W	W	1,224
New Mexico	17	-----	17	15	-----	15
Texas	W	-----	W	W	-----	W
Utah	2,303	-----	2,303	2,064	-----	2,064
Wyoming	3,720	815	4,535	4,265	742	5,007
Undistributed	W	W	10,937	W	W	12,959
Total	W	W	22,048	W	W	24,313
Grand total	160,355	17,586	177,941	164,165	18,214	182,379

W Withheld to avoid disclosing individual confidential data; included with "Undistributed."

Table 5.—Crude iron ore shipped from mines in the United States, by districts, States, and disposition

(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

District and State	1965			1966		
	Direct to consumers	To beneficiation plants	Total	Direct to consumers	To beneficiation plants	Total
Lake Superior:						
Michigan	4,969	19,311	24,280	4,272	21,048	25,320
Minnesota	11,579	102,054	113,633	12,863	103,794	116,657
Wisconsin	141	-----	141	-----	-----	-----
Total	16,689	121,365	138,054	17,135	124,842	141,977
Southeastern States:						
Alabama	122	3,937	4,059	150	3,976	4,126
Georgia	-----	1,697	1,697	-----	1,645	1,645
Total	122	5,634	5,756	150	5,621	5,771
Northeastern States:						
New Jersey, New York, Pennsylvania	-----	12,282	12,282	-----	11,382	11,382
Western States:						
Arizona	W	-----	W	W	-----	W
California	W	W	W	W	W	W
Colorado	114	-----	114	164	-----	164
Idaho	9	-----	9	11	-----	11
Mississippi	-----	W	W	-----	W	W
Missouri	-----	2,843	2,843	-----	2,804	2,804
Montana	9	-----	9	12	-----	12
Nevada	W	W	1,301	W	W	1,223
New Mexico	-----	18	18	-----	13	13
Texas	-----	W	W	-----	W	W
Utah	1,612	727	2,339	1,413	716	2,129
Wyoming	51	4,425	4,476	58	4,968	5,026
Undistributed	796	11,422	10,917	647	14,179	13,603
Total	2,591	19,435	22,026	2,305	22,680	24,985
Grand total	19,402	158,716	178,118	19,590	164,525	184,115

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 6.—Usable iron ore produced in the United States, by districts, States, and varieties

(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

District and State	1965				1966			
	Hematite	Brown ore	Magnetite	Total	Hematite	Brown ore	Magnetite	Total
Lake Superior:								
Michigan	W	------	W	14,322	W	------	W	14,322
Minnesota	32,527	629	18,898	52,054	31,909	772	21,599	54,280
Wisconsin	56	------	------	56	------	------	------	------
Total	W	629	W	66,432	W	772	W	68,602
Southeastern States:								
Alabama	634	906	------	1,540	705	876	------	1,581
Georgia	------	424	------	424	------	447	------	447
Total	634	1,330	------	1,964	705	1,323	------	2,028
Northeastern States:								
New Jersey, New York, Pennsylvania, Virginia	------	------	5,173	5,173	------	------	4,652	4,652
Western States:								
Arizona	W	------	------	W	W	------	W	W
California	W	------	W	W	W	------	W	W
Colorado	------	W	W	115	------	W	W	163
Idaho	W	------	W	W	W	------	W	W
Mississippi	------	W	------	W	------	W	------	W
Missouri	------	W	W	1,869	------	W	W	1,928
Montana	------	------	9	9	------	------	12	12
Nevada	W	------	W	1,141	W	------	W	1,000
New Mexico	------	------	10	10	------	------	12	12
Texas	------	W	------	W	------	W	------	W
Utah	------	------	2,147	2,147	W	------	W	1,937
Wyoming	W	------	W	2,147	W	------	W	1,959
Undistributed	W	705	W	[r] 5,627	W	818	W	7,063
Total	W	705	W	[r] 13,065	W	818	W	14,074
Total all States	47,043	2,664	[r] 36,927	[r] 86,634	46,602	2,913	39,841	89,356
Byproduct ore [1]	------	------	------	805	------	------	------	791
Grand total	47,043	2,664	[r] 36,927	[r] 87,439	46,602	2,913	39,841	90,147

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[r] Revised. W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Cinder and sinter obtained from treating pyrites. Ore was treated in Arizona, Colorado, Dealware, Pennsylvania, Tennessee, and Virginia.

Table 7.—Usable iron ore produced in the United States, by districts, States, and types of products

(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

District and State	1965				1966			
	Direct shipping ore	Agglomerates	Concentrates	Iron content (natural percent)	Direct shipping ore	Agglomerates	Concentrates	Iron content (natural percent)
Lake Superior:								
Michigan	5,181	7,684	1,457	58	4,318	8,786	1,218	59
Minnesota	11,631	19,053	21,370	57	12,853	21,741	19,686	56
Wisconsin	56	------	------	55	------	------	------	------
Total	16,868	26,737	22,827	57	17,171	30,527	20,904	57
Southern States:								
Alabama	166	------	1,374	41	192	------	1,389	36
Georgia	------	------	424	45	------	------	447	44
Total	166	------	1,798	42	192	------	1,836	38
Northeastern States: New Jersey, New York, Pennsylvania, Virginia	------	4,308	865	64	------	4,099	553	63
Western States:								
Arizona	W	------	------	W	W	------	------	W
California	W	W	W	W	W	W	W	W
Colorado	115	------	------	64	163	------	------	66
Idaho	W	------	------	W	W	------	------	W
Mississippi	------	------	W	W	------	------	W	W
Missouri	------	1,575	294	66	------	1,733	195	66
Montana	9	------	------	44	12	------	------	45
Nevada	W	------	W	W	W	------	W	W
New Mexico	------	------	10	60	------	------	12	58
Texas	------	W	W	W	------	W	W	W
Utah	1,597	------	550	53	1,413	------	524	52
Wyoming	111	1,443	593	54	40	1,404	515	56
Undistributed	815	552	[r] 5,401	[r] 60	584	2,598	4,881	59
Total	2,647	3,570	[r] 6,848	[r] 58	2,212	5,735	6,127	59
Total all States	19,681	34,615	[r] 32,338	57	19,575	40,361	29,420	57
Byproduct ore [1]	------	805	------	67	------	791	------	68
Grand total	19,681	35,420	[r] 32,338	57	19,575	41,152	29,420	57

[r] Revised. W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Cinder and sinter obtained from treating pyrites.

Table 8.—Shipments of usable iron ore from mines in the United States in 1966

(Thousand long tons and thousand dollars; exclusive of ore containing 5 percent or more manganese)

District and State	Gross weight of ore shipped				Iron content of ore shipped				
	Direct shipping ore	Agglomerates	Concentrates	Total quantity	Direct shipping ore	Agglomerates	Concentrates	Total quantity	Total value
Lake Superior:									
Michigan	4,272	8,690	1,415	14,377	2,520	5,127	835	8,482	$157,377
Minnesota	12,863	21,580	20,690	55,133	7,203	12,085	11,586	30,874	499,388
Total	17,135	30,270	22,105	69,510	9,723	17,212	12,421	39,356	656,765
Southeastern States:									
Alabama	150	----	1,358	1,508	51	----	552	603	8,702
Georgia	----	----	447	447	----	----	197	197	2,200
Total	150	----	1,805	1,955	51	----	749	800	10,902
Northeastern States:									
New Jersey, New York, Pennsylvania, Virginia	----	4,095	416	4,511	----	2,580	262	2,842	63,241
Western States:									
Arizona	W	----	----	W	W	----	----	W	W
California	W	W	W	W	W	W	W	W	W
Colorado	164	----	----	164	107	----	----	107	1,133
Idaho	11	----	----	11	5	----	----	5	97
Mississippi	----	----	W	W	----	----	W	W	W
Missouri	----	1,731	156	1,887	----	1,171	84	1,255	26,450
Montana	12	----	----	12	5	----	----	5	93
Nevada	W	----	W	1,000	W	----	W	619	4,931
New Mexico	----	----	W	W	----	----	W	W	W
Oregon	----	W	----	W	----	W	----	W	W
Texas	----	W	W	W	----	W	W	W	W
Utah	1,413	----	543	1,956	1,022	----	275	1,297	13,478
Wyoming	58	1,405	515	1,978	33	836	255	1,124	19,700
Undistributed	647	2,258	5,152	7,057	391	1,416	2,793	3,981	W
Total	2,305	5,394	6,366	14,065	1,563	3,423	3,407	8,393	W
Total all States	19,590	39,759	30,692	90,041	11,337	23,215	16,839	51,391	854,134
Byproduct ore [1]	----	783	----	783	----	420	----	420	10,212
Grand total	19,590	40,542	30,692	90,824	11,337	23,635	16,839	51,811	864,336

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Cinder and sinter obtained from treating pyrites. Ore treated in Arizona, Colorado, Delaware, Pennsylvania, Tennessee, and Virginia.

Table 9.—Iron ore produced in the Lake Superior district, by ranges

(Thousand long tons and exclusive after 1905 of ore containing 5 percent or more manganese)

Year	Marquette	Menominee	Gogebic	Vermilion	Mesabi	Cuyuna	Spring Valley District	Total
1854–1961	312,641	271,844	314,128	99,043	2,329,257	64,985	5,305	3,397,203
1962	4,563	3,460	2,318	1,158	43,041	655	362	55,556
1963	5,706	3,729	1,314	774	43,570	515	524	56,132
1964	7,898	4,551	1,602	865	47,256	513	420	63,106
1965	8,973	4,595	810	782	50,280	367	625	66,432
1966	9,589	4,620	113	704	51,506	1,299	772	68,603
Total	349,370	292,799	320,285	103,326	2,564,910	68,334	8,008	3,707,032

Table 10.—Average analyses of total tonnages (bill-of-lading weights) of all grades of iron ore from all ranges of Lake Superior district

Year	Thousand long tons	Content, percent [1]					
		Iron	Phosphorus	Silica	Manganese	Alumina	Moisture
1962	55,010	55.69	0.076	8.46	0.51	1.21	6.96
1963	57,591	56.45	.073	8.22	.52	1.07	6.20
1964	64,222	56.81	.072	8.12	.45	1.05	6.06
1965	64,689	56.93	.067	8.14	.47	0.97	6.05
1966	69,724	56.82	.068	7.99	.49	0.64	6.20

[1] Iron on natural basis; phosphorus, silica, manganese, and alumina on dried basis.

Source: American Iron Ore Association.

Table 11.—Beneficiated iron ore shipped from mines in the United States [1]

(Thousand long tons and exclusive of ore containing 5 percent or more manganese)

Year	Beneficiated	Total	Proportion of beneficiated to total (percent)
1957–61 (average)	39,299	76,990	51.0
1962	46,942	69,969	67.1
1963	57,277	73,564	77.7
1964	64,329	84,300	76.3
1965	[r] 64,667	[r] 84,073	76.9
1966	70,451	90,041	78.2

[r] Revised.
[1] Excludes byproduct ore.

Table 12.—Consumption of iron ore and agglomerates in the United States in 1966

(Long tons and exclusive of ore containing 5 percent or more manganese)

State	Iron ore [1]		Agglomerates [2]		Miscellaneous [3]	Total
	Blast furnaces	Steel furnaces	Blast furnaces	Steel furnaces		
Alabama, Kentucky, Texas	5,774,107	273,964	4,347,763	W	138,860	10,534,694
California, Colorado, Utah	4,519,728	484,369	2,768,620	W	80,506	7,853,223
Maryland and West Virginia	3,882,823	470,796	7,459,313	W	(2)	11,812,932
Illinois and Indiana	15,240,901	1,340,052	12,081,652	W	(2)	28,662,605
Michigan and Minnesota	6,299,850	115,134	4,860,924	W	54,492	11,330,400
New York, Ohio, Pennsylvania	35,035,509	2,271,647	25,183,159	W	220,384	62,710,699
Other States	-------	-------	-------	979,804	162,319	1,142,123
Total	70,752,918	4,955,962	56,701,431	979,804	656,561	134,046,676

W Withheld to avoid disclosing individual company confidential data; included with "Other States."
[1] Includes 31 million tons of pellets and nodules produced at mines.
[2] Does not include agglomerate produced at mine site.
[3] Includes iron ore used in making paint and cement, also ore consumed in ferroalloy furnaces.

Table 13.—Usable iron ore consumed in agglomerating plants and agglomerates produced from this ore in 1966, by States

(Long tons)

State	Iron ore[1] consumed	Agglomerate produced
Alabama, Kentucky, Texas	2,918,276	3,466,681
California, Colorado, Utah	2,358,908	2,742,663
Maryland and West Virginia	5,821,860	6,141,371
Illinois and Indiana	9,842,309	11,390,822
Michigan and Minnesota	2,228,214	3,056,129
New York, Ohio, Pennsylvania	16,265,974	19,297,700
Total	39,435,541	46,095,366

[1] Excludes material used at mine site or in agglomerate produced at mine site.

Table 14.—Production of agglomerates[1] in the United States in 1966, by types

(Long tons)

Type	Agglomerate produced
Sinter[2]	47,990,500
Pellets	35,954,417
Nodules	(3)
Total	83,944,917

[1] Production at mines and consuming plants.
[2] Includes 17,338,613 tons of self-fluxing sinter.
[3] Included with pellets.

Table 15.—Stocks of usable iron ore at mines[1] Dec. 31, by districts

(Thousand long tons)

District	1965	1966
Lake Superior	8,718	7,810
Southeastern States	225	298
Northeastern States	2,889	3,030
Western States	835	917
Total	12,667	12,055

[1] Excluding byproduct ore.

Table 16.—Average value of usable iron ore shipped from mines or beneficiating plants in the United States in 1966

District	Direct-shipping ore			Concentrates			
	Hematite	Brown ore	Magnetite	Hematite	Brown ore	Magnetite	Agglomerates
Lake Superior	$7.05	-----	-----	$7.75	W	-----	$12.07
Southeastern	W	-----	-----	W	$5.56	-----	-----
Northeastern	-----	-----	-----	-----	-----	$10.86	14.34
Western	5.59	$6.08	$6.67	6.33	11.08	6.83	11.68
Total	6.95	6.08	6.67	7.67	7.26	7.13	12.25

W Withheld to avoid disclosing individual company confidential data.

Table 17.—U.S. exports of iron ore, by countries

(Thousand long tons and thousand dollars)

Destination	1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value
Canada	4,834	$58,586	4,560	$54,399	3,911	$48,567
Germany, West	73	432	92	553	62	382
Japan	2,021	20,247	2,431	25,425	3,778	42,876
South Africa, Republic of	1	44	-----	-----	-----	-----
United Kingdom	18	260	-----	-----	(1)	5
Other countries	16	101	2	41	28	327
Total	6,963	79,670	7,085	80,418	7,779	92,157

[1] Less than ½ unit.

Table 18.—U.S. imports for consumption of iron ore [1] by countries

(Thousand long tons and thousand dollars)

Country	1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value
North America:						
Canada	24,854	$274,548	23,756	$264,360	23,941	$273,309
Mexico	22	129	10	43	(2)	1
Other	(2)	(2)	-----	-----	-----	-----
Total	24,876	274,677	23,766	264,403	23,941	273,310
South America:						
Brazil	1,055	11,660	2,279	23,380	2,723	26,695
Chile	2,712	24,220	2,660	23,253	2,268	19,810
Peru	580	6,646	957	10,350	1,043	11,281
Venezuela	9,954	79,207	12,273	97,925	12,592	102,040
Other	8	79	84	774	38	355
Total	14,309	121,812	18,253	155,682	18,664	160,181
Europe:						
Sweden	93	1,109	57	1,108	82	1,523
Other	10	477	11	518	51	674
Total	103	1,586	68	1,626	133	2,197
Africa:						
Algeria	20	235	51	356	-----	-----
Liberia	2,873	20,297	2,813	19,978	3,390	24,851
Mauritania	133	1,618	94	1,128	107	1,563
Nigeria	72	666	12	171	-----	-----
Other	19	222	45	439	-----	-----
Total	3,117	23,038	3,015	22,072	3,497	26,414
Asia:						
Philippines	-----	-----	-----	-----	-----	-----
Other	2	166	1	3	14	140
Total	2	166	1	3	14	140
Oceania:						
Australia	1	9	(2)	2	10	101
Other	-----	-----	-----	-----	(2)	11
Total	1	9	(2)	2	10	112
Grand total	42,408	421,288	45,103	443,788	46,259	462,354

[1] In addition pyrites cinder (byproduct iron ore) was imported as follows: 1964–8,635 tons ($49,266); 1951–1,563 tons ($18,580) all from Canada and beginning Jan. 1, 1966 no longer separately classified, included in iron ore.

[2] Less than ½ unit.

Table 19.—U.S. imports for consumption of iron ore, by customs districts

Customs district	1965		1966	
	Long tons (thousands)	Value (thousands)	Long tons (thousands)	Value (thousands)
Baltimore	10,282	$91,827	9,794	$89,426
Boston	-------	-------	(1)	1
Bridgeport	-------	-------	3	39
Buffalo	2,382	30,064	2,735	35,050
Chicago	4,863	51,750	4,812	54,509
Cleveland	5,591	59,755	7,090	75,490
Detroit	2,804	36,753	2,121	29,959
Duluth	6	13	2	17
Houston	793	10,010	627	8,279
Indiana	7	106	(2)	(2)
Laredo	10	43	(1)	(1)
Los Angeles	(1)	2	(1)	2
Milwaukee	-------	-------	(1)	1
Mobile	3,868	32,102	4,274	37,419
New Orleans	532	5,127	494	5,394
New York City	(1)	4	(1)	1
Norfolk	463	4,202	425	4,004
Ogdensburg	4	62	(1)	1
Philadelphia	13,454	121,648	13,881	122,752
Seattle	-------	-------	1	10
Tampa	44	320	-------	-------
Total	45,103	443,788	46,259	462,354

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(1) Less than ½ unit.
(2) Effective Jan. 1, 1966, included in Cleveland district.

Table 20.—World production of iron ore, iron ore concentrates, and iron ore agglomerates by countries

(Thousand long tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	24,428	26,914	34,219	[r] 35,678	36,158
Cuba [e]	1	1	1	1	NA
Guatemala	[e] 5	[e] 6	[e] 7	8	[e] 8
Mexico (60 percent Fe equivalent)	1,790	2,291	2,284	[r] 2,613	2,271
United States [2]	71,829	73,599	84,836	[r] 87,439	90,147
South America:					
Argentina	121	98	[r] 93	[r] 114	152
Brazil	10,567	11,042	16,694	[r] 17,873	[e] 20,700
Chile	7,964	8,373	9,697	[r] 12,520	12,053
Colombia	669	684	719	695	.652
Peru	5,855	[r] 6,516	[r] 6,425	[r] 6,992	7,664
Uruguay	-----	1	2	[e] 2	NA
Venezuela	13,057	11,562	[r] 15,409	[r] 17,234	17,479
Europe:					
Albania	418	255	345	[e] [r] 364	[e] 364
Austria	3,692	3,675	3,507	3,480	3,420
Belgium	80	94	60	90	122
Bulgaria	625	645	705	1,773	2,567
Czechoslovakia	3,422	3,357	2,801	[r] 2,531	2,209
Finland [3]	299	360	466	669	646
France	65,254	56,978	59,976	[r] 58,592	54,181
Germany:					
East	1,616	1,635	1,608	[r] 1,604	[e] 1,570
West	16,380	12,694	[r] 11,430	10,676	9,318
Greece	209	35	59	295	[e] 15
Hungary	671	721	763	750	735
Italy	1,133	1,008	[r] 862	773	772
Luxembourg	6,404	6,880	6,575	6,215	6,425
Norway	1,919	[r] 1,967	[r] 2,089	[r] 2,425	2,322
Poland	2,398	2,568	2,638	[r] 2,817	3,006
Portugal	258	259	212	[r] 208	183
Rumania	1,711	2,250	1,901	2,440	2,639
Spain	5,670	5,111	5,026	5,597	4,989
Sweden	22,170	23,264	[r] 26,199	29,019	27,761
Switzerland	[e] 102	94	89	111	65
U.S.S.R. [4] [5]	126,088	135,331	143,553	[r] 151,009	157,474
United Kingdom	15,277	14,912	16,326	[r] 15,415	12,457
Yugoslavia	2,155	2,261	2,271	2,464	2,454

See footnotes at end of table.

Table 20.—World production of iron ore, iron ore concentrates, and iron ore agglomerates by countries—Continued

(Thousand long tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Africa:					
Algeria	[r] 2,029	1,945	2,696	3,083	[e] 1,670
Angola	740	628	885	802	779
Guinea, Republic of	689	652	[r] 894	[r] 743	[e] 590
Liberia	[r] 3,660	[r] 7,401	[r] 12,794	15,707	16,593
Mauritania	984	1,652	5,000	[r] 6,185	7,044
Morocco	1,131	1,019	874	936	1,001
Rhodesia, Southern	609	645	811	[e] 1,340	NA
Sierra Leone	1,843	1,882	1,962	2,110	2,268
South Africa, Republic of [6]	4,263	4,390	4,754	5,724	6,690
South-West Africa	-----	15	9	32	37
Sudan	20	-----	(7)	34	38
Swaziland	-----	-----	59	1,004	1,566
Tunisia	749	851	924	1,099	1,248
United Arab Republic (Egypt)	454	481	440	[r] 499	435
Asia:					
Burma	9	4	NA	5	10
China, mainland [e] [8]	29,500	34,400	36,400	38,400	39,400
Hong Kong	111	112	114	132	135
India (including Goa)	18,505	19,679	21,025	23,286	25,920
Iran [9]	10	21	[e] [r] 20	59	[e] 59
Japan [10]	2,546	2,387	2,517	[r] 2,470	2,338
Korea:					
North	3,287	3,799	4,724	[e] 5,800	[e] 5,900
South	464	493	674	723	777
Malaysia	6,508	7,264	6,465	6,873	5,763
Pakistan [11]	-----	(7)	5	23	5
Philippines	1,365	1,363	1,345	1,415	1,443
Taiwan [12]	6	5	7	14	15
Thailand	44	16	188	738	681
Turkey	800	735	961	1,506	1,594
Oceania:					
Australia	4,843	5,515	[r] 5,668	[r] 6,696	11,425
Fiji	6	1	-----	3	-----
New Caledonia	298	294	302	275	217
World total [e]	[r] 499,710	[r] 515,090	[r] 572,364	[r] 608,202	618,619

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available July 1967.

[2] Includes byproduct ore.

[3] Iron concentrates and pellets.

[4] U.S.S.R. in Asia included with U.S.S.R. in Europe.

[5] Data represents iron concentrates of approximately 60 percent iron.

[6] Byproduct magnetite is produced as follows: 1962, 276,547; 1963, 521,260; 1964, 845,449; 1965, 892,512, and 1966, 878,218.

[7] Less than ½ unit.

[8] Roughly equivalent of 50 percent iron.

[9] Year ending March 20 of year following that stated.

[10] Includes iron sand production as follows: 1962, 1,419,744; 1963, 1,274,748; 1964, 1,402,814; 1965, 1,369,160, and 1966, 1,240,033.

[11] Obtained principally during exploration activities.

[12] Principally magnetite sands with limonite.

Table 21.—World trade of iron ore, iron-ore concentrates, and iron-ore agglomerates, in 1965

(Thousand long tons)

Exports by countries of origin	Fe Percent	Production	Exports	Exports by countries of destination																
				North America		South America	Europe												Asia	
				Canada	United States	Argentina	Austria	Belgium-Luxembourg	Czechoslovakia	France	Germany, East	Germany, West	Hungary	Italy	Netherlands	Poland	Rumania	United Kingdom	Other Europe	Japan	Other Countries
North America:																					
Canada	55	35,678	30,799	---	23,755	-----	---	532	---	30	---	[1] 879	---	568	[1] 347	---	---	2,915	---	1,773	---
Mexico	60	2,613	10	---	10	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
United States	57	[2] 87,439	7,085	4,560	---	-----	---	---	---	---	---	92	---	---	(3)	---	---	---	---	2,431	2
South America:																					
Brazil	68	17,873	12,530	355	2,286	829	345	744	351	[1] 622	---	3,324	---	1,374	[1] 300	104	316	625	112	828	15
Chile	64	12,520	10,560	---	2,722	310	---	49	---	---	---	697	---	---	---	---	---	---	---	6,782	---
Colombia	43	695	NA	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Peru	63	6,992	6,274	---	673	-----	---	155	---	155	---	1,085	---	262	49	---	---	---	---	3,895	---
Venezuela	62	17,234	16,737	20	12,122	-----	---	63	---	---	---	1,873	---	761	58	---	---	1,713	---	127	---
Europe:																					
Austria	31	3,480	(3)	---	---	-----	---	---	---	---	(3)	---	---	---	---	---	---	---	---	---	---
Belgium-Luxembourg	30	6,305	66	---	---	-----	---	---	---	64	---	---	---	---	---	---	---	---	2	---	---
Bulgaria	62	1,773	10	---	---	-----	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---
Finland	66	669	272	---	---	-----	---	2	30	---	---	141	---	3	---	93	---	---	3	---	---
France	30	58,592	20,420	---	---	-----	---	14,441	---	---	---	5,889	---	---	---	---	---	88	---	---	2
Germany, West	27	10,676	274	---	---	(3)	259	2	---	4	---	---	---	(3)	4	---	---	(3)	5	---	(3)
Greece	50	-----	29	---	---	-----	---	---	---	---	24	---	---	---	---	---	---	---	---	---	5
Italy	51	773	37	---	---	-----	---	---	---	37	---	---	---	---	---	---	---	---	---	---	---
Norway	64	2,425	1,422	---	---	-----	---	1	---	---	---	682	---	---	17	105	---	459	157	---	1
Poland	34	2,817	21	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	20	---	---	1
Portugal	50	208	7	---	---	-----	---	---	---	---	---	6	---	---	---	---	---	---	1	---	---
Spain	50	5,597	1,916	---	---	-----	---	13	---	76	---	759	---	61	338	---	---	586	76	---	7
Sweden	62	29,019	24,492	---	56	-----	---	5,649	151	490	33	9,900	9	89	590	766	---	6,126	633	---	(3)
Switzerland	36	111	95	---	---	-----	---	---	---	---	---	95	---	---	---	---	---	---	---	---	---
U.S.S.R.	60	[4] 151,009	23,757	---	---	-----	394	---	7,840	---	2,569	440	2,231	---	---	7,237	1,686	503	829	---	28
United Kingdom	28	15,415	NA	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yugoslavia	43	2,464	98	---	---	-----	(3)	---	2	---	(3)	---	96	---	---	---	---	---	---	---	---
Other East Europe		7,689	NA	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 21.—World trade of iron ore, iron-ore concentrates, and iron-ore agglomerates, in 1965—Continued

(Thousand long tons)

Exports by countries of origin	Fe Percent	Production	Exports	Exports by countries of destination																	
				North America		South America	Europe													Asia	
				Canada	United States	Argentina	Austria	Belgium-Luxembourg	Czechoslovakia	France	Germany, East	Germany, West	Hungary	Italy	Netherlands	Poland	Rumania	United Kingdom	Other Europe	Japan	Other Countries
Africa:																					
Algeria	54	3,083	2,945	---	52	-----	---	101	57	20	---	[e] 247	---	1,203	---	20	---	994	251	---	---
Angola	65	802	682	---	---	-----	---	---	---	---	---	497	---	---	---	---	---	---	33	152	---
Guinea, Republic of	51	743	704	---	---	-----	[1] 139	---	---	---	---	---	---	---	---	[1] 319	---	[1] 190	---	---	[1] 56
Liberia	68	15,707	15,421	---	3,120	-----	---	975	---	[1] 943	---	[1] 5,685	---	1,812	645	---	---	1,628	356	257	---
Mauritania	65	6,185	5,871	---	137	-----	---	567	---	1,147	---	1,162	---	980	319	---	---	1,529	---	---	30
Morocco	58	936	942	---	---	-----	---	9	105	103	---	370	---	---	---	---	---	191	164	---	---
Rhodesia, Southern	58	[e] 1,340	316	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	314	2
Sierra Leone	64	2,110	2,297	---	---	-----	---	---	---	---	---	684	---	293	765	---	---	555	---	---	---
South Africa, Republic of	62	5,724	2,195	---	---	-----	---	---	---	77	---	2	---	3	39	---	---	13	---	2,060	1
Sudan	60	34	34	---	10	-----	---	---	---	---	---	---	---	---	---	---	---	---	24	---	---
Tunisia	54	1,099	896	---	---	-----	---	---	---	---	---	46	---	330	---	50	---	294	176	---	---
United Arab Republic (Egypt)	50	499	---	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Asia:																					
China, mainland	50	[e] 38,400	[1] 207	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	[1] 207	---
Hong Kong	56	132	143	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	143	---
India, Including Goa	60	23,286	11,086	24	22	-----	---	166	735	[1] 31	30	605	71	273	[e] 104	304	550	---	400	7,744	27
Japan	56	2,470	(3)	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	(3)
Korea:																					
North	37	[e] 5,800	[1] 401	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	[1] 401	---
South	50	723	698	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	698	---
Malaysia	56	6,873	6,634	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	6,543	91
Philippines	58	1,415	1,357	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	1,357	---
Turkey	54	1,506	---	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Oceania:																					
Australia	65	6,696	97	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	97	(3)
New Caledonia	55	275	284	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	284
Other countries		2,003	NA	---	---	-----	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total		[e] 607,907	210,121	4,959	44,965	1,139	1,137	23,469	9,271	3,799	2,656	35,160	2,407	8,012	3,575	8,998	2,562	18,429	3,222	35,809	552

[e] Estimate. NA Not available.
[1] From import detail of customs returns of the respective country.
[2] Includes byproduct ore.
[3] Less than ½ unit.
[4] U.S.S.R. in Asia included with U.S.S.R. in Europe.

Iron and Steel

Table 1.—Salient iron and steel statistics

(Thousand short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Pig iron:						
Production	65,424	65,638	71,840	85,458	88,207	91,287
Shipments	65,193	65,727	72,211	85,693	88,391	90,884
Exports	304	154	70	176	28	12
Imports for consumption	368	500	645	736	882	1,187
Steel:[1]						
Production of ingots and castings (all grades):						
Carbon	89,426	89,160	98,714	114,442	116,651	118,732
Stainless	1,043	1,085	1,204	1,443	1,493	1,651
All other alloy	7,273	8,083	9,343	11,191	13,318	13,718
Total	97,742	98,328	109,261	127,076	131,462	134,101
Index (1957–61)=100	100.0	100.6	111.8	130.0	134.5	137.2
Total shipments of steel mill products	69,292	70,552	75,555	84,945	92,666	89,995
Exports of major iron and steel products	2,921	2,266	2,670	4,065	2,888	2,145
Imports of major iron and steel products[2]	3,316	4,297	5,637	6,630	10,640	11,043
World production:						
Pig iron[3]	253,009	293,000	311,000	350,000	370,000	383,000
Steel ingots and castings	345,148	398,000	427,000	483,000	507,000	525,000

[1] American Iron and Steel Institute.
[2] Data not comparable for all years.
[3] Includes ferroalloys.

Table 2.—Pig iron produced and shipped in the United States, by States

(Thousand short tons and thousand dollars)

State	Produced		Shipped from furnaces			
	1965	1966	1965		1966	
	Quantity		Quantity	Value	Quantity	Value
Alabama	4,296	4,389	4,346	$234,944	4,248	$230,844
Illinois	6,293	6,540	6,407	361,819	6,499	364,792
Indiana	11,081	11,956	11,071	621,604	11,958	671,876
Ohio	15,298	16,302	15,251	905,459	16,248	962,233
Pennsylvania	21,847	21,677	21,898	1,285,522	21,664	1,218,808
California, Colorado, Utah	4,886	4,896	4,886	285,115	4,893	284,142
Kentucky, Maryland, Texas, West Virginia	10,899	11,129	10,930	629,268	11,088	626,426
Michigan and Minnesota	7,537	7,932	7,511	416,248	7,902	434,919
New York	6,070	6,466	6,091	349,031	6,389	365,049
Total	88,207	91,287	88,391	5,039,010	90,884	5,153,589

Table 3.—Foreign iron ore and manganiferous iron ore consumed in manufacturing pig iron in the United States, by source of ore

(Short tons)

Source	1965 [1]	1966 [2]
Brazil	450,487	1,524,942
Canada	5,821,137	4,938,350
Chile	1,474,125	1,179,197
Peru	648,896	380,470
Venezuela	5,382,452	6,235,346
Other countries	1,107,989	1,229,836
Total	14,885,086	15,488,141

[1] Excludes 25,271,802 tons used in making agglomerates.
[2] Excludes 25,180,650 tons used in making agglomerates.

Table 4.—Pig iron shipped from blast furnaces in the United States, by grades [1]

(Thousand short tons and thousand dollars)

Grade	1965			1966		
	Quantity	Value		Quantity	Value	
		Total	Average per ton		Total	Average per ton
Foundry	1,664	$91,106	$54.75	1,577	$87,471	$52.85
Basic	79,979	4,554,584	56.95	82,997	4,703,961	56.54
Bessemer	2,703	153,798	56.90	2,857	162,473	56.45
Low-phosphorous	749	45,595	60.87	232	14,076	48.88
Malleable	2,940	173,425	58.99	2,888	166,375	56.71
All other (not ferroalloys)	356	20,502	57.59	333	19,233	56.90
Total	88,391	5,039,010	57.01	90,884	5,153,589	56.45

[1] Includes pig iron transferred directly to steel furnaces at same site.

Table 5.—Number of blast furnaces (including ferroalloy blast furnaces) in the United States, by States

State	January 1, 1966			January 1, 1967		
	In blast	Out of blast	Total	In blast	Out of blast	Total
Alabama	9	10	19	10	7	17
California	4	---	4	4	---	4
Colorado	4	---	4	4	---	4
Illinois	12	10	22	12	7	19
Indiana	21	2	23	20	3	23
Kentucky	2	1	3	2	1	3
Maryland	7	3	10	7	3	10
Michigan	9	---	9	9	---	9
Minnesota	1	1	2	2	---	2
New York	11	4	15	13	3	16
Ohio	26	23	49	31	19	50
Pennsylvania	37	23	60	40	21	61
Tennessee	---	3	3	---	3	3
Texas	2	---	2	2	---	2
Utah	2	3	5	3	---	3
Virginia	1	1	2	1	1	2
West Virginia	3	1	4	4	---	4
Total	151	85	236	164	68	232

Source: American Iron and Steel Institute.

Table 6.—Iron ore and other metallic materials, coke and fluxes consumed and pig iron produced in the United States, by States

(Short tons)

Year and State	Metalliferous materials consumed: Iron and manganiferous ores: Domestic	Foreign	Agglomerates	Net ores and agglomerates[1]	Net scrap[2]	Miscellaneous[3]	Net total	Net coke	Fluxes	Pig iron produced	Metalliferous materials consumed per ton of pig iron made: Net ores and agglomerates[1]	Net scrap[2]	Miscellaneous[3]	Total	Coke and fluxes consumed per ton of pig iron: Net coke	Fluxes
1965:																
Alabama	2,115,483	1,791,493	3,461,985	7,153,044	137,954	46,346	7,337,344	3,664,482	1,122,968	4,296,226	1.665	0.032	0.011	1.708	0.853	0.261
Illinois	4,497,663	W	5,875,992	9,967,880	459,250	693,497	11,120,627	4,463,283	1,381,357	6,292,875	1.584	.073	.110	1.767	.709	.220
Indiana	5,711,891	1,666,213	11,199,282	17,860,400	150,206	1,089,546	19,100,152	6,763,985	1,500,324	11,081,335	1.612	.014	.098	1.724	.610	.135
Ohio	5,817,988	1,652,661	15,154,025	21,726,721	1,390,696	1,733,758	24,851,175	9,688,599	3,890,954	15,298,402	1.420	.091	.113	1.624	.633	.254
Pennsylvania	7,765,836	5,015,439	20,484,822	32,276,885	1,034,579	2,087,893	35,399,357	14,869,045	3,923,875	21,846,537	1.477	.047	.096	1.620	.681	.180
California, Colorado, Utah	W	-----	4,843,540	8,353,969	928,568	179,383	9,461,920	2,925,131	895,812	4,885,494	1.710	.190	.037	1.937	.599	.183
Maryland, West Virginia, Kentucky, Texas	W	3,644,590	12,106,987	17,261,548	204,524	962,189	18,428,261	6,919,127	1,643,082	10,898,750	1.584	.019	.088	1.691	.635	.151
Michigan and Minnesota	W	W	10,341,189	11,482,138	174,351	178,815	11,835,304	4,523,336	1,520,731	7,536,531	1.523	.023	.024	1.570	.600	.202
New York	2,325,208	937,629	6,343,750	9,246,939	218,126	363,764	9,828,829	3,937,979	1,641,613	6,070,404	1.523	.036	.060	1.619	.649	.270
Total	35,273,683	14,885,086	89,811,572	135,329,524	4,698,254	7,335,191	147,362,969	57,754,967	[4]17,520,716	88,206,554	1.534	.054	.083	1.671	.655	.199
1966:																
Alabama	2,018,454	1,520,978	3,979,549	7,617,215	135,429	40,689	7,793,333	3,730,684	989,671	4,389,255	1.735	0.031	0.009	1.775	0.850	0.225
Illinois	4,830,995	W	6,254,501	11,184,539	426,315	126,834	11,737,688	4,554,641	1,499,845	6,540,064	1.710	.065	.019	1.794	.696	.229
Indiana	5,045,412	970,532	13,573,469	19,651,093	186,788	696,605	20,534,486	7,261,312	1,588,091	11,955,408	1.644	.016	.058	1.718	.607	.133
Ohio	4,933,809	1,709,062	17,618,603	24,287,066	1,342,867	1,424,650	27,054,583	10,849,285	3,766,059	16,301,869	1.490	.082	.087	1.659	.666	.231
Pennsylvania	6,073,776	5,762,292	21,384,899	33,153,664	1,043,235	1,978,177	36,175,076	14,098,619	3,181,218	21,677,055	1.529	.048	.091	1.669	.650	.147
California, Colorado, Utah	W	W	4,719,690	8,220,345	848,880	183,584	9,252,809	2,919,536	925,454	4,895,903	1.679	.173	.037	1.889	.596	.189
Maryland, West Virginia, Kentucky, Texas	W	4,253,097	11,904,094	17,941,332	212,739	907,137	19,061,208	6,850,676	1,749,729	11,129,471	1.612	.019	.082	1.713	.616	.157
Michigan and Minnesota	W	W	11,239,836	12,649,142	236,560	164,095	13,049,797	4,724,432	1,348,484	7,931,880	1.595	.030	.021	1.646	.596	.170
New York	2,572,815	555,529	7,136,916	10,274,180	218,244	393,327	10,885,751	4,045,342	1,413,738	6,466,029	1.589	.033	.060	1.682	.626	.219
Total	31,422,146	15,488,141	97,811,557	144,978,576	4,651,057	5,915,098	155,544,731	59,034,527	[5]16,462,289	91,286,934	1.588	.051	.065	1.704	.647	.180

W Withheld to avoid disclosing individual company confidential data; included with "Total."

[1] Net ores and agglomerates equal ores plus agglomerates plus flue dust used minus flue dust recovered.

[2] Excludes home scrap produced at blast furnaces.

[3] Does not include recycled material.

[4] Fluxes consisted of 11,130,961 tons of limestone, 5,748,892 tons of dolomite and 640,863 tons of other fluxes, excluding 4,593,166 tons of limestone, 2,189,606 tons of dolomite and 261,689 tons of other fluxes used in agglomerate production at or near steel plants and an unknown quantity used in making agglomerates at mines.

[5] Fluxes consisted of 9,788,558 limestone, 6,250,677 dolomite and 423,054 tons of other fluxes, excluding 5,132,729 limestone, 2,540,917 dolomite and 331,016 tons of other fluxes used in agglomerate production at or near steel plants and an unknown quantity used in making agglomerates at mines.

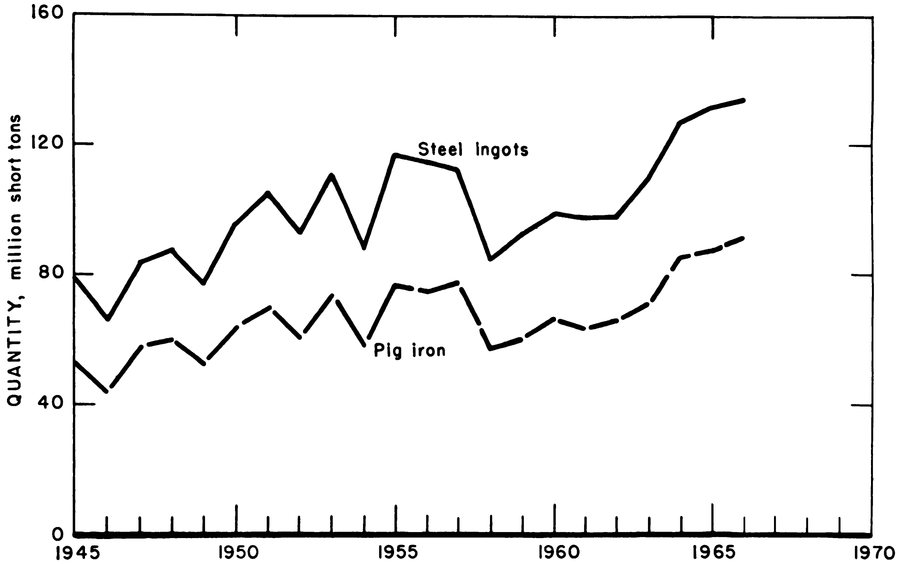

Figure 1.—Trends in production of pig iron and steel ingots in the United States.

Table 7.—Steel production in the United States, by type of furnace [1]
(Thousand short tons)

Year	Open hearth		Bessemer	Basic oxygen process	Electric	Total
	Basic	Acid				
1957–61 (average)	85,565	450	1,464	2,223	8,040	97,742
1962	82,578	379	805	5,553	9,013	98,328
1963	88,437	397	963	8,544	10,920	109,261
1964	97,655	443	858	15,442	12,678	127,076
1965	93,866	327	586	22,879	13,804	131,462
1966	84,804	221	278	33,928	14,870	134,101

[1] Includes only that steel for castings produced in foundries operated by companies manufacturing steel ingots. Omits about 2 percent of total steel production.
Source: American Iron and Steel Institute.

Table 8.—Metalliferous materials consumed in steel furnaces in the United States

(Thousand short tons)

Year	Iron ore		Agglomerates [1]	Pig iron	Ferroalloys [2]	Iron and steel scrap
	Domestic	Foreign				
1957–61 (average)	2,020	5,420	1,188	58,855	1,357	50,036
1962	1,875	4,768	644	60,561	1,408	49,606
1963	1,783	3,995	885	66,188	1,557	56,506
1964	2,114	4,816	1,379	78,925	1,819	64,348
1965	1,818	4,400	[3] 1,061	81,040	1,898	68,272
1966	1,348	3,768	[4] 870	83,947	1,915	68,778

[1] Includes consumption of pig iron and scrap by ingot producers and iron and steel foundries.

[2] Includes ferromanganese, spiegeleisen, silicomanganese, manganese briquets, manganese metal, ferrosilicon, ferrochromium alloys, and ferromolybdenum.

[3] Includes 567,285 tons of sinter, 385,759 tons of pellets, 99,506 tons of nodules, and 8,199 tons of other agglomerates. (418,452 tons of foreign origin.)

[4] Includes 435,225 tons of sinter, 348,138 tons of pellets, 86,276 tons of nodules and other agglomerates. (348,469 tons of foreign origin.)

Table 9.—Consumption of pig iron in the United States, by type of furnace

Type of furnace or equipment	1965		1966	
	Thousand short tons	Percent of total	Thousand short tons	Percent of total
Open hearth	61,483	69.1	55,508	60.5
Bessemer	652	.7	332	.4
Oxygen converter	18,518	20.8	27,821	30.3
Electric [1]	387	.5	286	.3
Cupola	3,757	4.2	3,667	4.0
Air	173	.2	167	.2
Direct castings	3,975	4.5	3,989	4.3
Total	88,945	100.0	91,770	100.0

[1] Includes a small quantity of pig iron consumed in crucible furnaces.

Table 10.—Consumption of pig iron in the United States, by districts and States

(Thousand short tons)

District and State	1965	1966
New England:		
Connecticut	32	34
Maine and New Hampshire	3	3
Massachusetts	58	65
Rhode Island	41	43
Vermont	7	7
Total	141	152
Middle Atlantic:		
New Jersey	63	90
New York	5,453	5,750
Pennsylvania	22,075	22,112
Total	27,590	27,952
East North Central:		
Illinois	6,598	6,607
Indiana	10,995	12,175
Michigan	7,823	8,136
Ohio	14,936	15,688
Wisconsin	200	211
Total	40,552	42,817
West North Central:		
Iowa	77	78
Kansas and Nebraska	6	6
Minnesota	559	540
Missouri	42	41
Total	683	665
South Atlantic:		
Delaware and Maryland	5,428	5,763
Florida and Georgia	15	15
North Carolina	35	34
South Carolina	17	17
Virginia and West Virginia	2,355	2,415
Total	7,850	8,244
East South Central:		
Alabama	3,774	3,769
Kentucky, Mississippi, Tennessee	1,905	1,734
Total	5,679	5,503
West South Central:		
Arkansas, Louisiana, Oklahoma	12	15
Texas	1,387	1,432
Total	1,399	1,447
Rocky Mountain:		
Arizona and Nevada	-----	(1)
Colorado, Idaho, Montana, Utah	2,657	2,690
Total	2,657	2,690
Pacific Coast:		
California and Hawaii	2,319	[2] 2,267
Oregon and Washington	74	33
Total	2,393	2,300
Grand total	88,945	91,770

[1] Small amount included in Colorado, Idaho, Montana, Utah.
[2] No pig iron consumption reported in Hawaii.

Table 11.—Average value of pig iron at blast furnaces in the United States, by States

(Per short ton)

State	1957–61 (average)	1962	1963	1964	1965	1966
Alabama	$55.80	$57.46	$55.66	$53.83	$54.06	$54.35
California, Colorado, Utah	57.13	51.59	50.31	58.40	58.35	58.07
Illinois	60.04	59.10	57.52	57.74	56.48	56.13
Indiana	58.68	57.34	56.15	57.32	56.15	56.18
New York	62.21	59.13	67.40	62.45	57.30	57.14
Ohio	58.97	59.89	57.78	60.24	59.37	59.22
Pennsylvania	60.22	58.93	59.34	57.50	56.42	56.00
Other States [1]	59.17	57.66	60.26	57.99	56.70	55.90
Average	59.08	58.15	58.47	58.25	57.01	56.71

[1] Comprises Kentucky, Maryland, Michigan, Minnesota, Texas, West Virginia and Massachusetts (1957–61).

Table 12.—Free-on-board value of steel mill products in the United States, in 1965 [1]

(Cents per pound)

Product	Carbon	Alloy	Stainless	Average
Ingots	3.295	12.810	30.630	5.595
Semifinished shapes and forms	5.570	11.180	46.945	6.645
Plates	6.735	9.240	51.160	7.640
Sheets and strips	7.210	14.880	43.920	8.085
Tin mill products	9.125	-----	-----	9.125
Structural shapes and piling	6.545	(2)	-----	6.545
Bars	7.895	13.565	62.370	9.470
Rails and railway-track material	8.450	-----	-----	8.450
Pipes and tubes	10.550	15.520	112.040	11.925
Wire and wire products	12.775	37.250	84.020	13.940
Other rolled and drawn products	(3)	24.550	58.805	30.200
Average total steel	7.815	13.045	53.240	8.745

[1] This table represents the weighted average value based on the quantity of each type of steel shipped; therefore, it reflects shifts in the distribution of the 3 classes of steel.

[2] Included with "plates."

[3] Included with rails and railway-track material.

Table 13.—U.S. exports of major iron and steel products

Products	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Semimanufactures:				
Ingots and other primary forms:				
Puddled bars and pilings, blocks, lumps and other primary forms of iron or steel, n.e.c.	5,024	$636	2,684	$332
Blooms, billets, ingots, slabs, sheet bars, and roughly forged pieces	673,183	51,686	338,479	28,289
Coils for rerolling	40,566	32,488	42,840	32,940
Blanks for tubes and pipes, iron or steel	3,927	183	1,039	182
Total	722,700	84,993	385,042	61,743
Bars, rods, angles, shapes and sections:				
Wire rods	19,191	3,144	12,184	2,269
Bars, rods, and hollow-drill steel	128,679	34,594	72,922	24,643
Concrete reinforcing bars	34,555	4,352	24,219	3,394
Angles, shapes, and sections	241,220	37,184	130,989	22,337
Plates and sheets:				
Steel plates	23,693	9,754	17,934	8,787
Steel sheets	291,412	70,716	165,153	45,968
Black plate	24,778	2,357	24,611	1,982
Iron and steel plates, n.e.c.	283,068	58,133	179,362	39,817

See footnotes at end of table.

Table 13.—U.S. exports of major iron and steel products—Continued

Products	1965 Short tons	1965 Value (thousands)	1966 Short tons	1966 Value (thousands)
Semimanufactures—Continued				
Tinplate and terneplate	273,758	$41,610	301,394	$44,501
Tinplate circles, cobbles, strip and scroll	13,845	1,427	12,354	1,229
Hoop and strip	99,092	33,616	49,720	25,460
Total	r 1,433,291	r 296,887	990,842	220,387
Manufactures:				
Rails and railway track construction materials:				
Rails	36,950	5,448	30,071	4,333
Joints and tie plates	6,509	1,263	9,831	1,901
Sleeper and track material of iron or steel, n.e.c	25,551	6,574	3,681	1,894
Wire:				
Steel wire coated or uncoated	4,219	4,272	4,892	3,878
Steel wire, bare	14,866	5,402	18,605	6,140
Galvanized wire	12,510	5,526	4,669	1,714
Barbed wire	1,332	343	1,124	305
Fencing and fence gates of iron or steel wire	2,746	[1] 902	2,062	[1] 767
Fencing wire n.e.c	2,150	605	684	324
Spring wire	9,249	4,473	11,310	4,814
Cables, ropes, bands, and slings	12,796	9,432	12,155	8,726
Tubes, pipes, and fittings:				
Cast-iron pressure pipe and fittings	40,808	8,025	52,327	10,275
Cast-iron soil pipe and fittings	10,620	2,527	23,844	4,630
Steel tube and pipe fittings, unions, and flanges	14,020	21,262	17,419	21,687
Steel tube and pipe fittings, welded	8,963	13,421	12,331	19,469
Malleable iron tube and pipe fittings, n.e.c	1,245	1,167	1,463	1,307
Electrical conduit fittings of iron or steel	10,849	7,767	11,358	8,731
Iron tube and pipe fittings n.e.c	4,709	6,703	6,029	8,172
Seamless tubes and pipe	185,635	71,894	213,411	84,781
Welded, clinched or riveted tubes and pipe	75,997	27,135	68,735	29,525
Castings and forgings	73,407	40,999	77,150	50,874
Finished structural parts and structures:				
Fabricated structural iron and steel	91,022	37,554	85,659	34,217
Doors, door and window sash, frames and molding and trim	2,231	2,622	2,645	2,982
Fabricated steel plate, including stacks and weldments	11,154	4,686	13,355	5,221
Construction materials, n.e.c	16,239	6,185	11,451	6,203
Storage tanks, lined or unlined	21,116	12,889	27,626	16,803
Nails, tacks, staples and spikes:				
Track spikes	896	221	741	217
Nails, tacks, staples, n.e.c	7,179	5,697	7,525	5,801
Bolts	13,121	12,239	17,650	16,314
Nuts	3,857	5,790	5,234	8,059
Screws, rivets, washers	9,888	14,735	13,953	20,104
Total	r 731,834	r 347,758	768,990	390,168
Advanced manufactures:				
Buildings (prefabricated and portable)	-----	6,659	-----	6,147
Finished structures and structural parts of iron and steel n.e.c	-----	12,646	-----	18,897
Hardware and parts	-----	7,119	-----	8,826
Chains and parts	11,676	15,434	11,922	17,458
House heating boilers	-----	15,991	-----	19,278
Plumbing fixtures and fittings	-----	5,484	-----	4,976
Tools	-----	36,290	-----	44,853
Utensils and parts (cooking, kitchen, and hospital)	-----	7,414	-----	7,988
Other	-----	r 61,163	-----	67,860
Total	-----	r 168,199	-----	196,283
Grand total	-----	r 897,837	-----	868,581

r Revised.

[1] In addition wire cloth as follows: 1965, $3,558,661 (14,353,618 square feet); 1966, $3,421,345 (7,489,299 square feet).

Table 14.—U.S. imports for consumption of pig iron, by countries

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
North America: Canada	294,277	386,296	387,449	395,202	485,089	393,593
South America: Brazil	(1)	---	---	67,895	73,537	---
Europe:						
Belgium-Luxembourg	882	---	---	---	[r]2,065	1,793
Czechoslovakia	---	---	---	---	---	67,968
Finland	2,051	681	12,123	73,004	66,422	64,655
Germany:						
East	---	---	---	57,182	82,189	104,891
West	17,376	56,341	87,435	51,412	64,220	79,750
Italy	---	---	---	---	68	---
Netherlands	1,425	---	---	---	---	4,506
Norway	100	3,584	3,319	101	666	---
Portugal	879	---	---	1,051	---	---
Rumania	---	---	---	---	---	32,599
Spain	25,406	42,416	45,161	11,683	42,085	9,002
Sweden	1,693	1,416	10,146	9,969	11,203	---
U.S.S.R.	649	---	---	---	34,188	185,394
United Kingdom	10	94	8	---	6,595	58
Total	50,471	104,532	158,192	204,402	[r]309,801	550,616
Africa:						
Mozambique	---	---	---	---	---	22,801
Rhodesia, Southern	1,051	---	---	---	---	72,664
South Africa, Republic of	16,432	5,030	76,696	68,620	12,867	133,824
Total	17,483	5,030	76,696	68,620	12,867	229,289
Asia:						
India	1,360	---	---	---	---	---
Japan	2,134	---	---	---	---	---
Total	3,494	---	---	---	---	---
Oceania: Australia	2,825	4,216	22,997	352	801	13,241
Grand total:						
Short tons	368,550	500,074	645,334	736,471	[r]882,095	1,186,739
Value, thousands	$19,982	$24,684	$28,937	$31,591	[r]$38,438	$45,914

[r] Revised.

[1] Less than ½ unit.

Table 15.—U.S. imports for consumption of major iron and steel products

Products	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Iron products:				
Cast iron pipes, tubes, and fittings	28,749	$3,079	26,336	$3,963
Malleable cast-iron fittings	3,846	1,540	3,779	1,636
Bars of wrought iron	262	81	484	138
Castings and forgings	12,181	10,313	5,853	2,039
Total	45,038	15,013	36,452	7,776
Iron or steel products:				
Ingots, blooms, billets, slabs and sheet bars	282,621	35,267	218,861	35,153
Bars:				
Concrete reinforcement bars	567,545	43,986	673,449	49,488
Solid and hollow, n.e.c.	554,859	61,933	586,505	67,691
Hollow drill steel	5,803	2,299	5,400	2,032
Plates and sheets:				
Black plate	23,046	1,880	9,327	851
Steel plate	773,680	76,256	948,761	86,875
Steel sheets	3,453,729	371,078	3,620,636	379,374
Plates and sheets of iron or steel	281	86	3,150	986
Plates, sheets and strip of iron or steel	6,546	1,690	19,568	3,831
Strip of iron or steel	52,707	18,132	59,633	23,236
Tinplate and terneplate	121,941	20,807	125,080	22,097
Structural iron and steel	[r] 65,183	[r] 13,954	86,043	19,376
Angles, shapes and sections	[r] 1,405,865	[r] 132,570	1,354,450	122,045
Wire rods of steel	1,283,636	123,526	1,150,309	108,022
Sheet piling	36,348	3,742	40,596	4,079
Pipes, tubes and fittings	950,891	139,371	1,088,433	162,415
Rails for railways	19,851	1,889	19,495	1,873
Rail braces, tie plates and joint bars	967	120	856	117
Circular saw plates	(1)	877	(1)	1,370
Wire:				
Barbed wire	74,855	10,119	76,501	9,806
Round wire	[r] 413,630	[r] 77,832	434,897	82,156
Flat wire	15,910	7,169	15,637	7,441
Rope and strand	[r] 64,872	[r] 18,233	80,720	23,443
Galvanized wire fencing and fencing wire	41,129	6,115	52,990	7,861
Wire used in card clothing	NA	171	NA	342
Bale ties of iron or steel	[r] 34,039	[r] 4,634	25,006	3,278
Nails	[r] 329,074	[r] 51,251	289,161	43,134
Steel castings and forgings	15,568	3,383	21,554	5,358
Total	[r] 10,594,576	[r] 1,228,370	11,007,018	1,273,730
Advanced manufactures:				
Bolts, nuts, rivets, and washers	[r] 108,298	[r] 33,945	108,259	36,695
Chains and parts	[r] 16,119	[r] 10,107	21,008	12,717
Screws	---	[r] 14,138	---	17,880
Tools	---	[r] 21,717	---	25,055
Other	---	[r] 1,989	---	5,758
Total	---	[r] 81,896	---	98,105
Grand total	---	[r] 1,325,279	---	1,379,611

[r] Revised.
NA Not available.
[1] Saws reported in number, 1965, 162,869; 1966, 157,990.

Table 16.—World production of pig iron (including ferroalloys) by countries

(Thousand short tons)

Country	1962	1963	1964	1965	1966[p][2]
North America:					
Canada	5,415	6,059	6,707	7,246	7,400
Mexico[1]	1,094	1,134	1,291	1,325	1,594
United States	67,636	73,853	87,922	91,016	94,000
South America:					
Argentina	[r] 449	[r] 481	[r] 666	[r] 751	573
Brazil	2,337	[r] 2,773	[r] 2,937	[r] 2,644	3,237
Chile	440	480	[r] 494	[r] 355	[3] 477
Colombia	[r] 160	[r] 223	[r] 226	[r] 225	186
Peru[3]	43	[r] 32	30	[r] 22	13
Venezuela	136	333	[r] 356	[r] 368	387
Europe:					
Austria	2,339	2,326	2,434	2,429	2,424
Belgium	7,439	7,622	[r] 8,780	[r] 9,222	9,072
Bulgaria	246	292	[r] 504	[r] 766	913
Czechoslovakia	5,766	5,847	6,361	6,743	6,905
Denmark	76	76	[r] 79	[r] 83	90
Finland	[r] 440	[r] 406	[r] 710	1,085	1,086
France[4]	[r] 15,458	[r] 15,767	[r] 17,452	[r] 17,370	17,185
Germany:					
East	2,287	2,370	2,491	[r] 2,577	2,698
West	26,732	25,253	29,963	29,751	28,013
Hungary	1,543	1,544	1,653	[r] 1,750	1,822
Italy	4,054	4,264	3,996	[r] 6,207	7,074
Luxembourg	3,965	3,954	4,620	4,569	4,367
Netherlands	1,732	1,884	2,147	2,606	2,435
Norway	798	826	[r] 985	[r] 1,202	1,256
Poland	5,854	5,947	6,220	6,349	6,455
Portugal	243	265	295	[r] 304	274
Rumania	1,666	1,881	2,121	2,226	2,423
Spain	2,374	2,187	2,172	2,678	2,449
Sweden	2,164	2,232	[r] 2,583	2,713	2,646
Switzerland	[e] 60	49	35	30	30
U.S.S.R.[5]	60,919	[r] 64,696	68,759	[r] 72,955	77,488
United Kingdom	15,335	16,342	19,347	19,555	17,595
Yugoslavia	1,216	1,168	1,184	1,295	1,342
Africa:					
Algeria	4	3	4	NA	NA
Rhodesia, Southern	266	260	351	276	287
South Africa, Republic of	2,663	2,676	3,182	3,972	4,126
United Arab Republic (Egypt)	194	226	212	[r] 191	[e] 185
Asia:					
China, mainland[e]	16,500	18,700	19,800	20,900	22,000
India	6,522	7,431	[r] 7,425	[r] 7,839	7,981
Japan	20,325	22,525	26,951	31,041	36,094
Korea:					
North	1,365	1,305	1,510	[e] [r] 1,637	1,692
South	2	6	7	[r] 23	23
Taiwan	69	60	68	79	78
Thailand	6	7	6	6	2
Turkey	323	434	[r] 442	[r] 551	906
Oceania: Australia	[r] 3,880	[r] 4,080	[r] 4,524	[r] 4,798	[4] 5,228
World total[e]	[r] 293,000	[r] 311,000	[r] 350,000	[r] 370,000	383,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Including sponge iron.

[2] Compiled mostly from data available July 1967.

[3] Excluding ferroalloys.

[4] Exclude electric furnace and alumino-thermic ferroalloys.

[5] U.S.S.R. in Asia included with U.S.S.R. in Europe.

Table 17.—World production of steel ingots and castings by countries

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	7,173	8,190	9,131	10,029	10,003
Mexico	1,896	2,247	2,593	2,743	3,088
United States [2]	98,328	109,261	127,076	131,462	134,101
South America:					
Argentina	[r] 726	1,006	[r] 1,397	[r] 1,510	1,412
Brazil	2,875	[r] 3,157	[r] 3,368	3,332	[e] 4,210
Chile	582	574	644	[r] 526	633
Colombia	173	245	254	[r] 267	239
Peru	78	84	90	[r] 104	85
Uruguay	10	8	15	14	25
Venezuela	248	401	485	1,196	575
Europe:					
Austria	3,274	3,249	3,521	[r] 3,551	3,520
Belgium	8,115	8,298	9,624	[r] 10,107	9,829
Bulgaria	466	508	[r] 524	648	772
Czechoslovakia	8,421	8,375	9,234	[r] 9,478	10,062
Denmark	405	396	437	[r] 454	446
Finland	335	340	[r] 409	[r] 400	440
France	18,857	19,214	21,501	[r] 21,319	21,589
Germany:					
East	4,508	[r] 4,512	[r] 4,751	[r] 4,813	4,497
West	35,895	34,830	41,159	40,588	38,929
Greece	171	230	231	231	231
Hungary	2,572	2,617	[r] 2,607	2,778	2,919
Ireland	21	22	22	22	30
Italy	10,755	11,196	10,795	13,978	15,034
Luxembourg	4,420	4,445	5,025	5,054	4,839
Netherlands	2,301	2,582	2,924	3,468	3,612
Norway	538	[r] 597	[r] 677	[r] 745	788
Poland	8,470	8,823	[r] 9,450	10,018	10,858
Portugal	184	235	265	[r] 289	266
Rumania	2,702	2,981	3,350	[r] 3,777	4,045
Spain	2,547	2,747	3,472	[r] 3,876	4,057
Sweden	3,980	4,300	[r] 4,971	5,208	5,251
Switzerland	351	355	380	380	472
U.S.S.R. [3]	[r] 84,114	[r] 88,439	[r] 93,707	[r] 100,333	106,814
United Kingdom	22,950	25,222	[r] 29,378	[r] 30,252	27,233
Yugoslavia	1,758	1,750	1,849	1,950	2,058
Africa:					
Algeria	7	10	22	NA	NA
Rhodesia, Southern	97	93	141	[r] 143	143
South Africa, Republic of	2,903	3,124	[r] 3,463	[r] 3,630	3,643
United Arab Republic (Egypt)	209	217	[r] 194	[r] 197	[e] 200
Asia:					
Burma [e]	14	17	17	20	28
China, mainland	11,000	13,200	[e] 15,400	[e] 16,500	[e] 17,600
India	[r] 5,675	6,581	[r] 6,554	[r] 7,129	7,198
Israel	88	91	[e] 90	[e] 95	[e] 95
Japan	30,364	34,724	43,871	45,372	52,673
Korea:					
North	1,157	1,127	[r] 1,156	[r] 1,356	[e] 1,435
South	[r] 166	[r] 179	[r] 148	[r] 214	[e] 240
Taiwan	201	303	331	485	331
Thailand	8	3	4	8	6
Turkey	[r] 345	[r] 428	536	734	1,035
Oceania: Australia	[r] 4,672	[r] 5,129	[r] 5,624	[r] 6,063	6,493
World total [e]	[r] 398,000	[r] 427,000	[r] 483,000	[r] 507,000	525,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available July 1967.

[2] Data from American Iron and Steel Institute. Excludes production of castings by companies that do not produce steel ingots.

[3] U.S.S.R. in Asia included with U.S.S.R. in Europe.

Iron and Steel Scrap

Table 1.—Salient iron and steel scrap, and pig iron statistics in the United States
(Thousand short tons)

	1965	1966
Stocks Dec. 31:		
Scrap at consumer plants	r 7,642	8,193
Pig iron at consumer and supplier plants	r 2,330	2,962
Total	9,972	11,155
Consumption:		
Scrap	90,359	91,583
Pig iron	88,945	91,770
Imports for consumption, scrap (including tinplate scrap)	212	407
Exports, iron and steel scrap	6,249	5,774
Price: Scrap No. 1 heavy-melting, Pittsburgh, average—per long ton [1]	$34.81	$30.48
Value: Scrap, all grades, for export [2]	$35.80	$33.45

r Revised.
[1] Iron Age.
[2] As computed from export data obtained from the Bureau of the Census.

Table 2.—Iron and steel scrap supply [1] available for consumption in 1966, by districts and States

(Thousand short tons)

District and State	Home production	Receipts from dealers and all others	Total new supply	Shipments [2]	New supply available for consumption
New England:					
Connecticut	97	108	205	11	194
Maine and New Hampshire	6	9	15	(3)	15
Massachusetts	99	153	252	8	244
Rhode Island	56	72	128	3	125
Vermont	11	20	31	---	31
Total	269	362	631	22	609
Middle Atlantic:					
New Jersey	241	520	761	21	740
New York	2,804	1,752	4,556	154	4,402
Pennsylvania	12,561	7,461	20,022	1,809	18,213
Total	15,606	9,733	25,339	1,984	23,355
East North Central:					
Illinois	4,812	4,651	9,463	342	9,121
Indiana	7,213	3,587	10,800	808	9,992
Michigan	4,748	4,424	9,172	179	8,993
Ohio	9,500	7,637	17,137	1,215	15,922
Wisconsin	658	592	1,250	101	1,149
Total	26,931	20,891	47,822	2,645	45,177
West North Central:					
Iowa	285	516	801	26	775
Kansas and Nebraska	57	102	159	1	158
Minnesota	271	238	509	12	497
Missouri	273	827	1,100	9	1,091
Total	886	1,683	2,569	48	2,521
South Atlantic:					
Delaware and Maryland	3,022	564	3,586	230	3,356
Florida	13	111	124	---	124
Georgia	116	328	444	2	442
North Carolina	37	174	211	---	211
South Carolina	21	23	44	---	44
Virginia	176	359	535	10	525
West Virginia	839	945	1,784	(3)	1,784
Total	4,224	2,504	6,728	242	6,486
East South Central:					
Alabama	1,898	1,441	3,339	232	3,107
Kentucky and Mississippi	759	935	1,694	103	1,591
Tennessee	194	238	432	12	420
Total	2,851	2,614	5,465	347	5,118
West South Central:					
Arkansas and Louisiana	24	40	64	1	63
Oklahoma	59	174	233	(3)	233
Texas	1,374	1,317	2,691	102	2,589
Total	1,457	1,531	2,988	103	2,885
Rocky Mountain:					
Arizona and Colorado	551	583	1,134	16	1,118
Montana, Nevada, Utah	848	118	966	22	944
Total	1,399	701	2,100	38	2,062
Pacific Coast:					
California and Hawaii	1,647	1,698	3,345	280	3,065
Oregon and Washington	193	677	870	14	856
Total	1,840	2,375	4,215	294	3,921
U.S. total	55,463	42,394	97,857	5,723	92,134

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[1] New supply available for consumption is a net figure computed by adding home production to receipts from dealers and all others and deducting scrap shipped, transferred, or otherwise disposed of during the year. The plus or minus difference in stock levels at the beginning and end of the year are not taken into consideration.
[2] Includes scrap shipped, transferred, or otherwise disposed of during the year.
[3] Less than ½ unit.

Table 3.—Consumption of iron and steel scrap and pig iron in the United States in 1966, by type of consumer and type of furnace or equipment

(Thousand short tons)

Type of furnace or equipment	Type of consumer		
	Scrap	Pig iron[1]	Total
Manufacturers of steel ingots and castings:[2]			
Open-hearth	38,639	55,415	94,054
Basic oxygen converter[3]	11,368	27,821	39,189
Bessemer	7	316	323
Electric[4]	15,136	204	15,340
Total steelmaking furnaces	65,150	83,756	148,906
Cupola	1,406	290	1,696
Air	48	14	62
Blast[5]	5,226	-----	5,226
Direct castings	-----	3,145	3,145
Miscellaneous	46	-----	46
Total	71,876	87,205	159,081
Manufacturers of steel castings:[6]			
Open-hearth	700	93	793
Bessemer	5	-----	5
Electric	2,557	38	2,595
Total steelmaking furnaces	3,262	131	3,393
Cupola	377	17	394
Air	230	37	267
Total	3,869	185	4,054
Iron foundries and miscellaneous users:			
Bessemer	57	16	73
Electric[4]	309	44	353
Total steelmaking furnaces	366	60	426
Cupola	13,490	3,360	16,850
Air	1,294	116	1,410
Direct castings	-----	844	844
Ferroalloy	560	-----	560
Miscellaneous	128	-----	128
Total	15,838	4,380	20,218
Total:			
Open-hearth	39,339	55,508	94,847
Basic oxygen converter[3]	11,368	27,821	39,189
Bessemer	69	332	401
Electric[4]	18,002	286	18,288
Total steelmaking furnaces	68,778	83,947	152,725
Cupola	15,273	3,667	18,940
Air	1,572	167	1,739
Blast[5]	5,226	-----	5,226
Direct castings	-----	3,989	3,989
Ferroalloy	560	-----	560
Miscellaneous	174	-----	174
Total	91,583	91,770	183,353

[1] Include molten metal.

[2] Includes only those castings made by companies producing steel ingots.

[3] Includes scrap and pig iron processed in metallurgical blast cupola and used in oxygen converters.

[4] Includes small quantities of scrap and pig iron consumed in crucible furnaces and vacuum melting.

[5] Includes consumption in all blast furnaces producing pig iron.

[6] Excludes companies that produce both steel ingots and steel castings.

Table 4.—Proportion of iron and steel scrap and pig iron used in furnaces in the United States

(Percent)

Type of furnace	1965		1966	
	Scrap	Pig iron	Scrap	Pig iron
Open-hearth	41.6	58.4	41.5	58.5
Basic oxygen converter	29.6	70.4	29.0	71.0
Bessemer	10.9	89.1	17.2	82.8
Electric [1]	97.7	2.3	98.4	1.6
Cupola	79.7	20.3	80.6	19.4
Air	89.9	10.1	90.4	9.6

[1] Includes crucible furnaces and vacuum melting.

Table 5.—Consumption of iron and steel scrap and pig iron in the United States in 1966, by districts and States

(Thousand short tons)

District and State	Scrap	Pig iron	Total
New England:			
Conn	193	34	227
Maine and N. H	14	3	17
Mass	252	65	317
R. I	123	43	166
Vt	31	7	38
Total	613	152	765
Middle Atlantic:			
N. J	741	90	831
N. Y	4,585	5,750	10,335
Pa	18,230	22,112	40,342
Total	23,556	27,952	51,508
East North Central:			
Ill	8,922	6,607	15,529
Ind	9,905	12,175	22,080
Mich	8,931	8,136	17,067
Ohio	15,752	15,688	31,440
Wis	1,159	211	1,370
Total	44,669	42,817	87,486
West North Central:			
Iowa	765	78	843
Kans. and Nebr	162	6	168
Minn	516	540	1,056
Mo	1,063	41	1,104
Total	2,506	665	3,171
South Atlantic:			
Del. and Md	3,190	5,763	8,953
Fla	127	3	130
Ga	463	12	475
N. C	204	34	238
S. C	54	17	71
Va	522	100	622
W. Va	1,770	2,315	4,085
Total	6,330	8,244	14,574
East South Central:			
Ala	3,150	3,769	6,919
Ky	1,653	1,569	3,222
Miss		---	
Tenn	418	165	583
Total	5,221	5,503	10,724
West South Central:			
Ark. and La	61	1	62
Okla	242	14	256
Tex	2,528	1,432	3,960
Total	2,831	1,447	4,278
Rocky Mountain:			
Ariz. and Colo	1,107	955	2,062
Mont., Nev., Utah	869	1,735	2,604
Total	1,976	2,690	4,666
Pacific Coast:			
Calif. and Hawaii	3,024	[1] 2,267	5,291
Oreg. and Wash	857	33	890
Total	3,881	2,300	6,181
U.S. Total	91,583	91,770	183,353

[1] No pig iron consumption reported in Hawaii.

Table 6.—Consumption of iron and steel scrap and pig iron by districts and States, by type of manufacturers in 1966

(Thousand short tons)

District and State	Steel ingots and castings [1]		Steel castings [2]		Iron foundries and miscellaneous users	
	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron
New England:						
Conn.	65	-----	7	(3)	121	34
Maine	-----	-----	-----	-----	10	3
N. H.	-----	-----	(4)	(3)		
Mass.	-----	-----	14	1	242	64
R. I.	62	29	-----	-----	61	14
Vt.	-----	-----	-----	-----	31	7
Total	127	29	21	1	465	122
Middle Atlantic:						
N. J.	255	-----	81	3	405	88
N. Y.	3,583	5,548	165	18	837	183
Pa.	16,818	21,884	513	36	899	193
Total	20,656	27,432	759	57	2,141	464
East North Central:						
Ill.	6,936	6,112	580	34	1,406	462
Ind.	8,836	11,939	216	3	853	233
Mich.	5,276	7,346	178	3	3,477	787
Ohio	13,158	14,937	541	56	2,053	694
Wis.	-----	-----	375	6	784	205
Total	34,206	40,334	1,890	102	8,573	2,381
West North Central:						
Iowa	-----	-----	51	1	715	78
Kans. and Nebr.[5]	-----	-----	114	1	48	5
Minn.	(6)	(6)	55	(3)	151	55
Mo.	1,125	485	116	10	131	30
Total	1,125	485	336	12	1,045	168
South Atlantic:						
Del. and Md.	3,047	5,752	43	1	[7] 100	[7] 10
Fla. and Ga.	630	-----	17	(3)	45	15
N. C.	(6)	-----	-----	-----	102	34
S. C.	-----	-----	-----	-----	54	17
Va.	-----	-----	111	1	411	100
W. Va.	1,707	2,299	41	1	22	15
Total	5,384	8,051	212	3	734	191
East South Central:						
Ala.	1,998	3,068	133	(3)	1,019	701
Ky.	-----	1,530	-----	-----	279	39
Miss.	1,391	-----	-----	-----	-----	-----
Tenn.	-----	-----	31	3	370	162
Total	3,389	4,598	164	3	1,668	902
West South Central:						
Ark.	-----	-----		-----	-----	-----
La.	-----	-----	76	1	8	-----
Okla.	(6)	-----		(3)	52	14
Tex.	2,072	1,381	83	1	540	50
Total	2,072	1,381	159	2	600	64
Rocky Mountain:						
Ariz.[5]		-----				
Colo.	1,672		100	1		
Utah		2,680			204	8
Nev.	-----	-----			(7)	(7)
Mont.	-----	-----	-----	-----		
Total	1,672	2,680	100	1	204	8
Pacific Coast:						
Calif. and Hawaii [5]	2,525	2,185	[7] 127	[7] 2	[7] 372	[7] 79
Oreg.[5] and Wash.	720	30	101	2	36	1
Total	3,245	2,215	228	4	408	80
U.S. total [8]	71,876	87,205	3,869	185	15,838	4,380

[1] Includes only those castings made by companies producing steel ingots. [2] Excludes companies that produce both steel ingots and steel castings. [3] Less than ½ unit. [4] New Hampshire included with Massachusetts in steel castings. [5] No pig iron consumption reported for Nebraska, Arizona, Oregon, or Hawaii. [6] For steel ingots and castings the following States are combined: Minnesota with Missouri; North Carolina with Florida and Georgia; Oklahoma with Texas. [7] No scrap or pig iron consumption reported for Delaware, Nevada, or Hawaii. [8] Data may not add to totals shown due to rounding.

Table 7.—Consumption of iron and steel scrap and pig iron in open-hearth furnaces in 1966, by district and States

(Thousand short tons)

District and State	Scrap	Pig iron	Total
New England and Middle Atlantic:			
N. Y. and R. I.	2,027	2,451	4,478
Pa.	10,435	15,945	26,380
Total	12,462	18,396	30,858
East North Central:			
Ill.	2,975	4,254	7,229
Ind.	7,353	8,390	15,743
Mich. and Wis.	1,269	1,136	2,405
Ohio	6,547	9,992	16,539
Total	18,144	23,772	41,916
West North Central:			
Minn. and Mo.	350	495	845
South Atlantic:			
Del., Md., W. Va.	3,699	6,471	10,170
East and West South Central:			
Ala., Ky., Tex.	2,447	3,791	6,238
Rocky Mountain and Pacific Coast:			
Calif., Colo., Utah	2,237	2,583	4,820
U.S. total	39,339	55,508	94,847

Table 8.—Consumption of iron and steel scrap and pig iron in electric [1] steel furnaces in the United States in 1966, by district and States

(Thousand short tons)

District and State	Scrap	Pig iron	Total
New England:			
Conn.	86	5	91
Mass. and N. H.	14	1	15
Total	100	6	106
Middle Atlantic:			
N. J.	285	2	287
N. Y.	324	7	331
Pa.	3,756	36	3,792
Total	4,365	45	4,410
East North Central:			
Ill.	3,207	31	3,238
Ind.	188	5	193
Mich.	467	4	471
Ohio	2,925	36	2,961
Wis.	274	6	280
Total	7,061	82	7,143
West North Central:			
Iowa, Kans., Nebr.	168	1	169
Minn. and Mo.	932	1	933
Total	1,100	2	1,102
South Atlantic:			
Del. and Md.	131	2	133
Fla., Ga., N. C.	647	2	649
Va. and W. Va.	334	(2)	334
Total	1,112	4	1,116
East South Central:			
Ala.	414	1	415
Ky., Miss., Tenn.	689	(3)	689
Total	1,103	1	1,104
West South Central:			
Ark.[4], La., Okla.	241	4	245
Tex.	880	102	982
Total	1,121	106	1,227
Rocky Mountain:			
Ariz., Colo., Nev., Utah	202	1	203
Pacific Coast:			
Calif. and Hawaii [4]	1,020	8	1,028
Oreg. and Wash.	818	31	849
Total	1,838	39	1,877
U.S. total	18,002	286	18,288

[1] Includes small quantities of scrap and pig iron consumed in crucible furnaces and vacuum melting.

[2] Less than ½ unit.

[3] Data for Tennessee, included in Alabama, no pig iron consumption reported in Kentucky or Mississippi.

[4] No pig iron consumption reported.

Table 9.—Consumption of iron and steel scrap and pig iron in cupola furnaces in the United States in 1966, by district and States

(Thousand short tons)

District and State	Scrap	Pig iron	Total
New England:			
Conn.	71	23	94
Maine and N. H.	6	1	7
Mass.	238	62	300
R. I.	51	12	63
Vt.	31	7	38
Total	397	105	502
Middle Atlantic:			
N. J.	428	88	516
N. Y.	737	179	916
Pa.	622	200	822
Total	1,787	467	2,254
East North Central:			
Ill.	1,217	184	1,401
Ind.	773	223	996
Mich.	4,076	706	4,782
Ohio	2,171	334	2,505
Wis.	697	176	873
Total	8,934	1,623	10,557
West North Central:			
Iowa	491	76	567
Kans. and Nebr.	48	5	53
Minn.	155	55	210
Mo.	118	29	147
Total	812	165	977
South Atlantic:			
Md.	125	13	138
Fla. and Ga.	42	14	56
N. C.	101	34	135
S. C.	48	17	65
Va. and W. Va.	385	111	496
Total	701	189	890
East South Central:			
Ala.	929	707	1,636
Ky.	176	38	214
Tenn.	384	165	549
Total	1,489	910	2,399
West South Central:			
La. and Okla.	57	11	68
Texas	504	74	578
Total	561	85	646
Rocky Mountain:			
Colo., Mont., Utah	180	44	224
Pacific Coast:			
Calif.	379	77	456
Oreg. and Wash.	33	2	35
Total	412	79	491
U.S. total	15,273	3,667	18,940

Table 10.—Consumption of iron and steel scrap and pig iron in air furnaces in the United States in 1966, by districts and States

(Thousand short tons)

District and State	Scrap	Pig iron	Total
New England:			
Conn.	36	7	43
Mass., N. H., R. I.	17	6	23
Total	53	13	66
Middle Atlantic:			
N. J. and N. Y.	33	6	39
Pa.	221	39	260
Total	254	45	299
East North Central:			
Ill.	293	15	308
Ind. and Mich.	330	16	346
Ohio	366	41	407
Wis.	138	26	164
Total	1,127	98	1,225
West North Central:			
Iowa, Minn., Mo.	15	3	18
South Atlantic, East and West South Central:			
Ala., Tex., W. Va.	123	7	130
U.S. total	1,572	166	1,738

Table 11.—Consumption of iron and steel scrap in blast furnaces in the United States in 1966, by districts and States

(Thousand short tons)

District and State	Scrap
Middle Atlantic:	
N. Y.	334
Pa.	1,372
Total	1,706
East and West North Central:	
Ill.	625
Ind., Mich., Minn.	538
Ohio	1,627
Total	2,790
South Atlantic, East and West South Central:	
Ala. and Texas	285
Ky., Md., W. Va.	285
Total	570
Rocky Mountain:	
Colo. and Utah	160
Total	160
U.S. total	5,226

Table 12.—Consumption of iron and steel scrap for miscellaneous uses in the United States in 1966, by districts and States

(Thousand short tons)

District and State	Scrap
Middle Atlantic:	
N. J.	27
N. Y.	15
Pa.	2
Total	44
East North Central:	
Ill., Ind., Mich.	43
Ohio	3
Total	46
West North Central:	
Minn. and Mo.	9
South Atlantic:	
Fla., Ga., Va.	6
East and West South Central:	
Ala. and Tex.	2
Rocky Mountain:	
Ariz., Colo., Mont., Utah	46
Pacific Coast:	
Calif. and Wash.	21
U.S. total	174

Table 13.—Consumption of iron and steel scrap by type of manufacturers by grades, in 1966

(Thousand short tons)

Grades of scrap	Steel ingots and castings	Steel castings	Iron foundries and miscellaneous users
Steel scrap, excludes rerolling rails:			
Carbon	62,186	3,281	5,580
Alloy, excludes stainless	3,084	160	185
Stainless	900	34	35
Cast iron, includes borings	5,707	393	10,038
Total	71,877	3,868	15,838

Table 14.—Consumption of iron and steel scrap, by grades, by districts and States, in 1966

(Thousand short tons)

District and State	Carbon steel (excludes rerolling rails)	Alloy steel (excludes stainless)	Stainless steel	Cast iron (includes borings)
New England:				
Conn	89	8	[1] 32	64
Maine and N. H	6	-----	-----	9
Mass	77	-----	(1)	173
R. I	62	4	-----	57
Vt	7	-----	-----	24
Total	241	12	32	327
Middle Atlantic:				
N. J	412	13	4	312
N. Y	3,632	83	94	776
Pa	13,739	1,677	454	2,361
Total	17,783	1,773	552	3,449
East North Central:				
Ill	7,268	218	51	1,385
Ind	8,663	127	27	1,089
Mich	5,817	37	104	2,973
Ohio	12,290	900	108	2,454
Wis	606	5	4	544
Total	34,644	1,287	294	8,445
West North Central:				
Iowa	517	-----	(2)	247
Kans. and Nebr	117	-----	W	45
Minn	356	(3)	-----	152
Mo	877	[3] 14	[2] 2	179
Total	1,867	14	2	623
South Atlantic:				
Del. and Md	2,845	21	[4] 70	255
Fla. and Ga	556	-----	-----	34
N. C	110	-----	-----	94
S. C	6	6	(4)	42
Va	286	2	-----	234
W. Va	1,737	7	-----	26
Total	5,540	36	70	685
East South Central:				
Ala	2,369	70	W	711
Ky	-----	111	6	199
Miss	1,337	-----	-----	-----
Tenn	163	-----	-----	254
Total	3,869	181	6	1,164
West South Central:				
Ark	(5)	-----	-----	-----
La	[5] 53	W	-----	8
Okla	209	-----	-----	33
Tex	1,916	38	2	572
Total	2,178	38	2	613
Rocky Mountain:				
Ariz. and Colo	961	[6] 53	-----	139
Mont	736	-----	-----	87
Nev		-----	-----	
Utah		(6)	-----	
Total	1,697	53	-----	226
Pacific Coast:				
Calif. and Hawaii [7]	2,465	13	3	542
Oreg. and Wash	763	22	8	64
Total	3,228	35	11	606
U.S. total [8]	71,047	3,429	969	16,138

W Withheld to avoid disclosing individual company confidential data; included in U.S. total.

[1] Massachusetts included with Connecticut.

[2] Iowa included with Missouri.

[3] Minnesota included with Missouri.

[4] South Carolina included with Delaware and Maryland.

[5] Arkansas included with Louisiana.

[6] Utah included with Arizona and Colorado.

[7] No alloy, stainless steel or cast iron reported for Hawaii.

[8] Data may not add to totals shown due to rounding.

Table 15.—Home scrap produced by source, by type of manufacturers in 1966

(Thousand short tons)

	Source of scrap			Total
	Recirculating[1]	Obsolete[2]	Other, including slag	
Manufacturers of steel ingots and castings	40,830	3,662	2,428	46,920
Manufacturers of steel castings	1,603	8	2	1,613
Iron foundries and miscellaneous users	6,785	136	9	6,930
Total	49,218	3,806	2,439	55,463

[1] Includes home, plant or recycled iron and steel scrap.

[2] Includes molds, stools, machinery, buildings; excludes rerolling rails.

Table 16.—Consumers receipts and total consumption of iron and steel scrap, by grades, in 1966

(Thousand short tons)

Grades of scrap (excludes rerolling rails)	Receipts			Total consumption
	From dealers	From others	Total	
Carbon steel:				
Low phosphorus plate and punchings	2,953	788	3,741	4,608
Cut structural and plate	1,170	27	1,197	1,324
Steel car wheels	138	3	141	153
No. 1 heavy melting	6,305	2,383	8,688	30,751
No. 2 and electric furnace bundles	4,911	1,844	6,755	7,208
No. 2 and all other bundles	4,777	542	5,319	5,939
Turnings and borings	2,698	153	2,851	3,039
Slag scrap (Fe content)	322	624	946	3,120
All other carbon steel	4,185	1,089	5,274	14,905
Alloy steel, excludes stainless	496	201	697	3,429
Stainless steel	355	55	410	969
Cast iron: Borings	731	297	1,028	1,347
All other cast iron scrap	4,216	1,131	5,347	14,791
Total	33,257	9,137	42,394	91,583

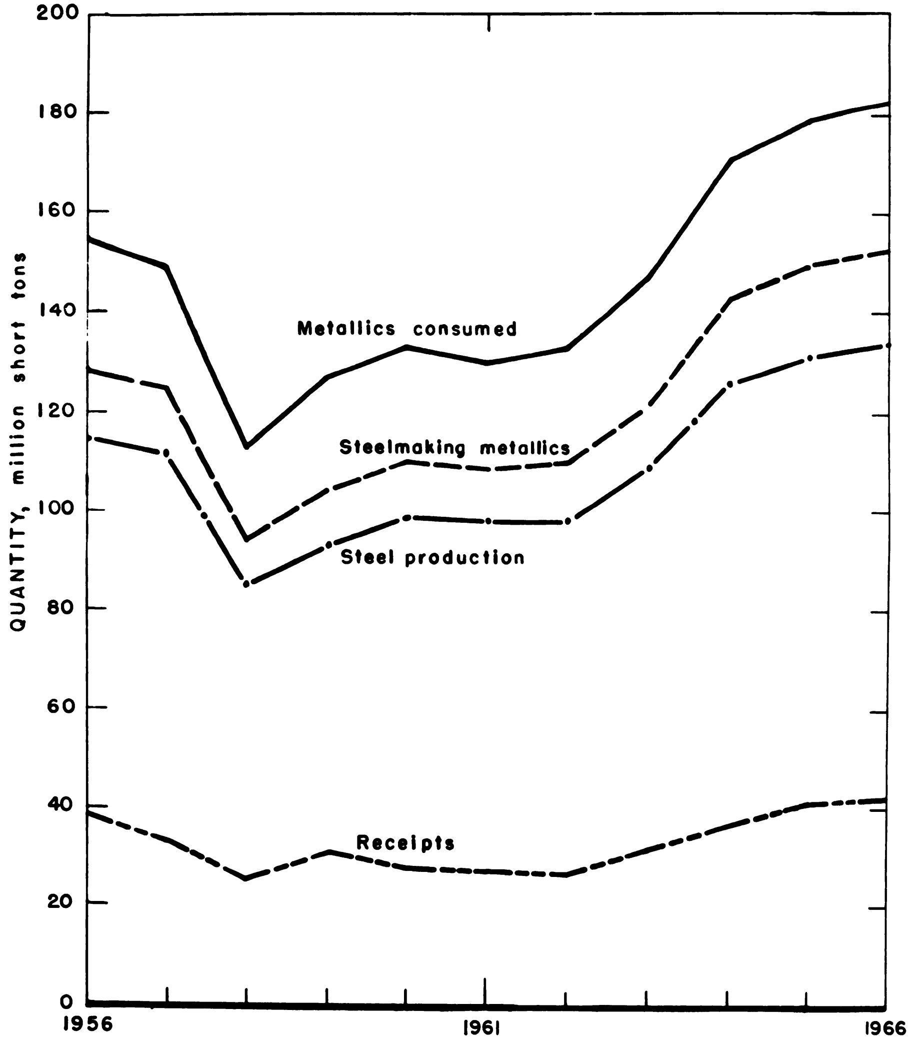

Figure 1.—Metallics consumed—Total iron and steel scrap plus pig iron; Steelmaking metallics—Total iron and steel scrap plus pig iron consumed in steelmaking furnaces; Steel production (AISI); Receipts—Receipts of purchased scrap by consumers.

Table 17.—Consumer stocks of iron and steel scrap and pig iron Dec. 31, 1966, in the United States, by districts and States

(Thousand short tons)

District and State	Scrap	Pig iron
New England:		
Conn.	21	4
Maine and N. H.	1	(1)
Mass.	16	8
R. I.	16	8
Vt.	1	(1)
Total	55	20
Middle Atlantic:		
N. J.	86	16
N. Y.	428	394
Pa.	1,624	546
Total	2,138	956
East North Central:		
Ill.	1,007	234
Ind.	806	115
Mich.	442	293
Ohio	1,022	489
Wis.	47	31
Total	3,324	1,162
West North Central:		
Iowa	74	8
Kans. and Nebr.	6	1
Minn.	60	15
Mo.	186	4
Total	326	28
South Atlantic:		
Del. and Md.	402	76
Fla.	9	1
Ga.	40	1
South Atlantic—Continued		
N. C.	15	2
S. C.	6	3
Va.	33	11
W. Va.	96	72
Total	601	166
East South Central:		
Ala.	342	437
Ky. and Miss.	191	[2] 14
Tenn.	15	9
Total	548	460
West South Central:		
Ark [3]	---	---
La.	4	(1)
Okla.	38	3
Tex.	281	47
Total	323	50
Rocky Mountain:		
Ariz. and Colo.	85	6
Mont., Nev., Utah	304	81
Total	389	87
Pacific Coast:		
Calif. and Hawaii	341	[2] 28
Oreg. and Wash.	148	5
Total	489	33
U.S. total [4]	8,193	2,962

[1] Less than ½ unit.

[2] No pig iron stocks reported in Mississippi, Arkansas, and Hawaii.

[3] Arkansas included with Louisiana.

[4] Data may not add to totals shown due to rounding.

Table 18.—Consumer stocks of iron and steel scrap, by grades, by districts and States, Dec. 31, 1966

(Thousand short tons)

District and State	Carbon steel (excludes re-rolling rails)	Alloy steel (excludes stainless)	Stainless steel	Cast iron (includes borings)
New England:				
Conn.	7	2	5	7
Maine and N. H.	(1)	-----	-----	1
Mass.	5	-----	(1)	11
R. I.	12	(1)	-----	4
Vt.	(1)	-----	-----	1
Total	24	2	5	24
Middle Atlantic:				
N. J.	49	(2)	(2)	36
N. Y.	318	[2] 16	[2] 27	70
Pa.	1,183	159	40	241
Total	1,550	175	67	347
East North Central:				
Ill.	848	19	3	136
Ind.	634	11	4	158
Mich.	310	3	13	116
Ohio	791	35	15	181
Wis.	29	(1)	(1)	17
Total	2,612	68	35	608
West North Central:				
Iowa	65	-----	(1)	8
Kans. and Nebr.	5	-----	-----	1
Minn.	42	(3)	-----	18
Mo.	160	[3] 1	(1)	25
Total	272	1	(1)	52
South Atlantic:				
Del. and Md.	342	5	6	49
Fla. and Ga.	45	-----	-----	3
N. C.	10	-----	-----	5
S. C.	1	3	(1)	2
Va.	22	(1)	-----	12
W. Va.	91	1	-----	4
Total	511	9	6	75
East South Central:				
Ala.	279	(1)	(1)	62
Ky.	-----	54	1	12
Miss.	125	-----	-----	-----
Tenn.	6	-----	-----	9
Total	410	54	1	83
West South Central:				
Ark.	(4)	-----	-----	-----
La.	[4] 3	-----	-----	1
Okla.	34	-----	-----	4
Tex.	216	2	(1)	63
Total	253	2	(1)	68
Rocky Mountain:				
Ariz. and Colo.	76	[5] 5	-----	9
Mont.	175	-----	-----	124
Nev.		-----	-----	
Utah		(5)	-----	
Total	251	5	-----	133
Pacific Coast:				
Calif. and Hawaii [6]	265	3	1	73
Oreg. and Wash.	134	1	1	12
Total	399	4	2	85
U.S. total [7]	6,282	320	116	1,475

[1] Less than ½ unit.
[2] New Jersey included with New York.
[3] Minnesota included with Missouri.
[4] Arkansas included with Louisiana.
[5] Utah included with Arizona and Colorado.
[6] No alloy steel, stainless steel or cast iron reported for Hawaii.
[7] Data may not add to totals shown due to rounding.

Table 19.—Consumer stocks, production, receipts, consumption and shipments of iron and steel scrap, by grades, in 1966

(Thousand short tons)

Grades of scrap (excludes rerolling rails)	Stocks Jan. 1 r	Home scrap produced	Receipts from dealers and all others	Total consumption	Shipments	Stocks Dec. 31
Steel scrap:						
Carbon	5,561	41,078	34,912	71,047	4,222	6,282
Alloy, exclude stainless	392	2,787	697	3,429	127	320
Stainless	132	587	410	969	44	116
Cast iron, including borings	1,557	11,011	6,375	16,138	1,330	1,475
Total	7,642	55,463	42,394	91,583	5,723	8,193

r Revised.

Table 20.—Stocks of iron and steel scrap and pig iron at major consuming industries plants, Dec. 31

(Thousand short tons)

Year	Manufacturers of steel ingots and castings	Manufacturers of steel casting	Iron foundries and miscellaneous users	Total
Scrap stocks:				
1965 r	6,248	373	1,021	7,642
1966	6,822	389	982	8,193
Pig iron stocks:				
1965 r	1,859	28	443	2,330
1966	2,481	25	456	2,962

r Revised.

Table 21.—Average monthly price and composite price for No. 1 heavy melting scrap in 1966

(Per long ton)

Month	Chicago	Pittsburgh	Philadelphia	Composite price [1]
January	$37.90	$32.90	$31.10	$33.96
February	38.75	35.50	31.50	35.25
March	35.50	33.75	31.75	34.33
April	31.50	33.50	30.50	31.83
May	29.70	31.50	28.90	30.03
June	30.75	30.25	27.50	29.50
July	34.25	30.50	28.50	31.08
August	32.70	28.90	30.50	30.70
September	29.25	27.50	31.50	29.42
October	28.50	27.50	30.50	28.83
November	28.50	27.50	29.50	28.50
December	28.50	26.50	28.00	27.67
Average:				
1966	32.15	30.48	29.98	30.87
1965	35.05	34.81	33.19	34.35

[1] Composite price, Chicago, Pittsburgh, Philadelphia.

Source: The Iron Age, Jan. 5, 1967.

Table 22.—Stocks, production, receipts, consumption and shipments of pig iron

(Thousand short tons)

Year	Stocks Jan. 1, 1966	Production	Receipts	Consumption	Shipments	Stocks Dec. 31, 1966
1965	2,464	88,295	8,099	88,945	r 7,583	2,330
1966	2,330	91,724	8,493	91,770	7,815	2,962

r Revised.

Table 23.—U.S. exports of iron and steel scrap, by countries

(Short tons)

Destination	Iron and steel scrap including tinplate and terneplate scrap		Rerolling material[1]
	1965	1966	1966
North America:			
Canada	1,011,227	739,442	2,989
Dominican Republic	1,297	-----	-----
Guatemala	3,010	47	-----
Leeward and Windward Islands	-----	188	-----
Mexico	857,032	779,602	3,476
Other	53	108	-----
Total	1,872,619	1,519,387	6,465
South America:			
Argentina	115,184	22,214	-----
Brazil	376	193	-----
Colombia	6,438	11,263	-----
Peru	34,770	23,727	-----
Venezuela	2,241	26,409	-----
Other	59	23	-----
Total	159,068	83,829	-----
Europe:			
Finland	9,473	-----	-----
France	3,575	8,712	-----
Germany, West	34,645	14,709	-----
Italy	776,514	321,781	-----
Netherlands	18,123	761	-----
Spain	148,662	84,759	-----
Sweden	56,236	45,834	-----
United Kingdom	66,785	647	-----
Yugoslavia	101,642	100,749	-----
Other	356	1,117	-----
Total	1,216,011	579,069	-----
Africa:			
South Africa, Republic of	33,133	-----	-----
United Arab Republic (Egypt)	66,363	41,651	-----
Other	259	1	-----
Total	99,755	41,652	-----
Asia:			
Hong Kong	10,624	368	-----
Japan	2,389,751	3,079,256	22,359
Korea, South	95,264	279,410	13,938
Nansei and Nanpo Islands	11,774	4,522	3,417
Pakistan	432	20,208	-----
Philippines	10,542	80	-----
Taiwan	335,706	128,970	61,080
Turkey	41,411	35,413	-----
Viet-Nam, South	644	576	-----
Other	215	685	-----
Total	2,896,363	3,549,488	100,794
Oceania:			
Australia	7	178	-----
French Pacific Islands	4,905	-----	-----
Other	-----	63	-----
Total	4,912	241	-----
Grand total:			
Short tons	6,248,728	5,773,666	107,259
Value (thousands)	$199,745	$172,418	$5,043

[1] Classification reestablished Jan. 1, 1966; 1965 included with iron and steel scrap.

Table 24.—U.S. imports for consumption of iron and steel scrap, by countries

(Short tons)

Country	1965	1966
North America:		
Bermuda	-----	1,064
Canada	206,359	395,439
French West Indies	-----	224
Mexico	39	17
Other	4	9
Total	206,402	396,753
Europe:		
Belgium-Luxembourg	-----	1,965
France	1,179	-----
Germany, West	4,157	498
Netherlands	69	6,656
United Kingdom	22	342
Other	140	12
Total	5,567	9,473
Africa	66	1
Asia:		
Gaza Strip	-----	21
India	67	174
Israel	8	-----
Japan	304	2
Total	379	197
Oceania:		
Australia	56	210
New Zealand	-----	21
Total	56	231
Grand total:		
Short tons	212,470	406,655
Value (thousands)	$7,450	$8,207

Table 25.—U.S. imports for consumption and exports of iron and steel scrap by classes

Class	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Imports:				
Iron and steel scrap	193,482	$6,999	390,205	$7,672
Tinplate scrap	18,988	451	16,450	535
Total	212,470	7,450	406,655	8,207
Exports:				
Nos. 1 and 2 heavy melting steel scrap	3,090,645	102,786	3,172,004	95,852
Nos. 1 and 2 baled steel scrap	1,797,063	45,268	1,441,164	33,329
Borings, shovelings, and turnings	216,004	5,072	377,223	7,989
Iron scrap	394,131	12,516	260,490	7,716
Rerolling material [1]			107,259	5,043
Other steel scrap (terneplate and tinplated)	750,885	34,103	522,785	27,532
Total	6,248,728	199,745	5,880,925	177,461

[1] Class reestablished Jan. 1, 1966; 1965 included with other steel scrap.

Iron Oxide Pigments

Table 1.—Salient iron oxide pigments statistics in the United States

	1957–61 (average)	1962	1963	1964	1965	1966
Mine production ____ short tons	54,800	57,500	56,700	59,300	57,000	63,200
Crude pigments sold or used ____ do	54,700	60,100	55,900	59,700	56,200	63,900
Value ____ thousands	$493	$500	$500	$446	$419	$476
Finished pigments sold ____ short tons	106,700	113,000	118,800	119,500	127,500	130,700
Value ____ thousands	$17,511	$19,798	$21,135	$22,991	$23,549	$24,841
Exports ____ short tons	3,800	3,800	4,200	5,100	4,700	4,800
Value ____ thousands	$1,022	$1,076	$1,306	$1,817	$1,380	$1,307
Imports for consumption ____ short tons	12,900	13,100	13,700	16,300	17,800	24,600
Value ____ thousands	$1,290	$1,295	$1,469	$1,817	$2,165	$3,163

Table 2—Finished iron oxide pigments sold by processors in the United States, by kinds

Pigment	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Natural:				
Brown:				
Iron oxide (metallic) [1]	21,795	$2,844	15,438	$2,567
Umbers:				
Burnt	2,907	586	3,483	708
Raw	571	117	665	135
Red:				
Iron oxide	29,101	1,504	34,493	1,925
Sienna, burnt	1,069	331	1,178	373
Pyrite cinder	2,440	154	2,959	155
Yellow:				
Ocher [2]	3,887	212	4,881	277
Sienna, Raw	760	192	655	193
Total natural	62,530	5,940	63,752	6,333
Manufactured:				
Black: Magnetic	2,742	857	3,154	991
Brown: Iron oxide	3,984	1,883	4,842	2,444
Red:				
Pure red iron oxides:				
Calcined copperas	20,056	5,602	21,776	6,113
Other chemical processes	7,039	2,088	6,588	1,974
Other manufactured red iron oxides	2,256	394	2,088	325
Venetian red	814	128	652	99
Yellow: Iron oxide	20,377	5,533	19,258	5,358
Total manufactured	57,268	16,485	58,358	17,304
Unspecified, including mixtures of natural and manufactured red iron oxides	7,742	1,124	8,548	1,204
Grand total	127,540	23,549	130,658	24,841

[1] Includes some black magnetite and vandyke brown.
[2] Includes some yellow iron oxide.

Table 3.—Prices quoted on finished iron oxide pigments, per pound, in bags, unless otherwise noted, as of Dec. 30, 1966

Pigment	Low	High	Pigment	Low	High
Black:			Red:		
Pure	$0.1475	[1] $0.1850	Domestic primers	$0.0575	$0.0575
Synthetic	.1275	.1300	Persian Gulf	[2] .0925	.1000
Brown:			Pure synthetic	.1425	[1] .1625
Pure, synthetic	.1550	[1] .1875	Spanish, docks, New York	[2] .0550	.0625
Metallic	.0625	[1] .0775	Sienna, burnt	.1100	.2200
Umber, American, burnt	[2] .0775	.1150	Yellow:		
Umber, American, raw	[2] .0900	.1100	Ocher, domestic	.0300	.0425
Vandyke:			Ocher, French type	.0675	.0725
American	[2] .1075	.1100	Pure, light lemon	.1325	[1] .1525
Pure, domestic	.4525	.4525	Other shades	.1250	[1] .1375
Sienna, American: Burnt	[2] .1600	.2150	Sienna, raw	.1100	.2200

[1] Less than ton lots.
[2] Barrels.

Source: Oil, Paint and Drug Reporter, American Paint Journal, and pigment processors.

Table 4.—U.S. exports of iron oxide pigments, by countries

Destination	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
North America:				
Canada	2,258	$411	2,426	$399
Guatemala	24	8	22	6
Mexico	19	13	9	7
Other	56	19	43	16
South America:				
Argentina	58	25	102	46
Brazil	21	11	49	28
Chile	46	16	17	7
Colombia	59	18	26	9
Venezuela	118	26	116	16
Other	12	5	30	11
Europe:				
Belgium-Luxembourg	23	12	10	9
France	136	49	153	53
Germany, West	153	52	156	61
Italy	107	65	80	49
Netherlands	35	11	75	36
Sweden	30	13	42	13
Switzerland	24	9	6	6
United Kingdom	415	229	205	70
Other	28	10	20	9
Africa:				
South Africa, Republic of	33	6	2	5
Other	6	1	7	2
Asia:				
Hong Kong	5	2	6	4
India	2	2	21	7
Japan	301	93	205	72
Philippines	183	51	128	33
Viet-Nam, South	99	30	509	218
Other	14	7	47	9
Oceania	391	186	241	106
Total	4,656	1,380	4,753	1,307

Table 5.—U.S. imports for consumption of selected iron oxide pigments

Pigments	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Natural:				
Ocher, crude and refined	186	$14	146	$8
Siennas, crude and refined	1,025	105	1,192	145
Umber, crude and refined	3,195	118	3,762	135
Vandyke brown	296	25	554	49
Other [1]	2,978	155	3,662	200
Total	7,680	417	9,316	537
Manufactured (synthetic)	10,071	1,748	15,234	2,626
Grand total	17,751	2,165	24,550	3,163

[1] Classified by the Bureau of the Census as "Natural iron-oxide and iron-hydroxide pigments, n.s.p.f."

Table 6.—U.S. imports for consumption of iron-oxide and iron-hydroxide pigments, n.s.p.f.,[1] by countries

Country	Natural				Synthetic			
	1965		1966		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
North America: Canada	1	$1	(2)	(2)	2,116	$420	4,373	$888
Europe:								
Belgium-Luxembourg	5	1	-----	-----	-----	-----	-----	-----
France	33	3	165	$15	139	18	295	39
Germany, West	5	3	30	3	6,324	977	9,634	1,552
Netherlands	-----	-----	-----	-----	8	6	-----	-----
Spain	2,828	131	3,315	162	-----	-----	-----	-----
Sweden	-----	-----	-----	-----	-----	-----	1	1
Switzerland	(2)	1	-----	-----	-----	-----	-----	-----
United Kingdom	106	15	152	20	821	126	926	145
Asia:								
Gaza Strip	-----	-----	-----	-----	18	2	-----	-----
Japan	-----	-----	-----	-----	645	199	5	1
Total	2,978	155	3,662	200	10,071	1,748	15,234	2,626

[1] Not specifically provided for.
[2] Less than ½ unit.

Lead

Table 1.—Salient lead statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Domestic ores, recoverable lead content short tons..	273,953	236,956	253,369	286,010	301,147	327,368
Value..thousands..	$65,952	$43,602	$54,727	$74,936	$93,959	$98,964
Primary lead (refined):						
From domestic ores and base bullion short tons..	271,801	245,645	239,660	294,254	305,007	318,646
From foreign ores and base bullion short tons..	163,523	130,418	155,072	155,175	113,242	122,089
Antimonial lead (primary lead content) short tons..	15,214	27,383	9,256	8,607	6,612	11,182
Secondary lead (lead content)..short tons..	453,020	444,202	493,471	541,582	575,819	572,834
Exports of lead materials excluding scrap..short tons..	4,086	5,006	1,092	10,194	7,811	5,435
Imports, general:						
Lead in ores and matte short tons..	166,358	138,631	147,742	123,257	122,661	143,991
Lead in base bullion short tons..	268	4,599	5,437	4,838	566	2,012
Lead in pigs, bars, and old.......short tons..	291,135	259,522	235,902	212,898	226,883	288,821
Stocks December 31 (lead content):						
At primary smelters and refineries..short tons.	212,306	196,661	120,836	84,398	83,443	115,473
At consumer plants short tons..	115,023	93,496	119,930	113,444	109,195	90,306
Consumption of metal, primary and secondary short tons..	1,052,808	1,109,635	1,163,358	1,202,138	1,241,482	1,323,877
Price: New York, common lead, average, cents per pound....................	12.36	9.63	11.14	13.62	16.00	15.12
World:						
Production:						
Mine.......short tons..	2,612,000	2,765,000	2,820,000	2,830,000	2,990,000	3,155,000
Smelter..........do....	2,523,000	2,620,000	2,710,000	2,825,000	2,905,000	2,995,000
Price: London, common lead, average, cents per pound..	9.43	7.06	7.93	12.59	14.37	11.87

Table 2.—Mine production of recoverable lead in the United States, by States

(Short tons)

State	1957–61 (average)	1962	1963	1964	1965	1966
Alaska	(1)	---	5	---	(1)	14
Arizona	9,752	6,966	5,815	6,147	5,913	5,211
Arkansas	8	---	---	---	---	---
California	874	455	823	1,546	1,810	1,976
Colorado	16,771	17,411	19,918	20,563	22,495	23,082
Idaho	60,404	84,058	75,759	71,312	66,606	72,334
Illinois	2,716	3,610	2,901	2,180	3,005	2,285
Kansas	1,653	970	1,027	1,185	1,644	1,109
Kentucky	510	743	831	858	756	484
Missouri	111,073	60,982	79,844	120,148	133,521	132,255
Montana	7,386	6,121	5,000	4,538	6,981	4,409
Nevada	2,853	771	1,126	809	2,277	3,581
New Mexico	2,314	1,134	1,014	1,626	3,387	1,596
New York	876	1,063	1,009	732	601	1,097
North Carolina	150	219	62	---	---	---
Oklahoma	2,678	2,710	3,192	2,781	2,813	2,999
Tennessee	---	(1)	---	---	---	181
Utah	40,350	38,199	45,028	40,249	37,700	64,124
Virginia	2,946	4,059	3,500	3,857	3,651	3,078
Washington	9,568	6,033	5,374	5,731	6,328	5,859
Wisconsin	1,058	1,394	1,116	1,742	1,645	1,694
Other States	13	58	25	6	14	---
Total	273,953	236,956	253,369	286,010	301,147	327,368

[1] Combined with "Other States" to avoid disclosing individual company confidential data.

Table 3.—Ore, old tailings, etc., yielding lead and zinc in the United States in 1966

(Short tons)

State	Lead ore			Zinc ore			Lead-zinc ore			Copper-lead, copper-zinc, and copper-lead-zinc ores			All other sources[1]			Total		
	Gross weight	Lead	Zinc	Gross weight	Lead	Zinc	Gross weight	Lead	Zinc	Gross weight	Lead	Zinc	Gross weight	Lead	Zinc	Gross weight	Lead	Zinc
Alaska	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	382	14	-----	382	14	-----
Arizona	556	45	4	1,623	34	260	320,674	5,069	13,320	19,426	5	1,107	17,373,224	58	1,294	17,715,503	5,211	15,985
California	8,947	1,751	286	-----	-----	-----	9,087	176	46	-----	-----	-----	2,667	49	3	20,701	1,976	335
Colorado	4,083	278	28	231,408	2,530	22,991	384,492	9,877	15,780	452,180	10,300	15,960	149,966	97	63	1,222,129	23,082	54,822
Idaho	297,340	27,829	3,948	37,711	690	2,369	779,961	37,697	48,834	-----	-----	-----	787,113	6,118	5,846	1,902,125	72,334	60,997
Illinois	-----	-----	-----	(2)	(2)	(2)	(2)	(2)	(2)	-----	-----	-----	[2] 648,979	[2] 2,285	[2] 15,192	648,979	2,285	15,192
Kansas	-----	-----	-----	261,637	985	4,539	7,460	120	202	-----	-----	-----	85	4	28	269,182	1,109	4,769
Kentucky	-----	-----	-----	44,902	-----	5,807	-----	-----	-----	-----	-----	-----	121,725	484	779	166,627	484	6,586
Missouri	[3] 5,387,330	[3] 132,255	[3] 3,968	(3)	(3)	(3)	-----	-----	-----	-----	-----	-----	-----	-----	-----	5,387,330	132,255	3,968
Montana	17,632	985	337	926,455	2,631	23,781	1,239	206	96	-----	-----	-----	81,706	587	4,906	1,027,032	4,409	29,120
Nevada	3,615	193	68	1,234	95	275	311,042	2,569	5,336	-----	-----	-----	29,356	724	148	345,247	3,581	5,827
New Jersey	-----	-----	-----	148,264	-----	25,237	-----	-----	-----	-----	-----	-----	-----	-----	-----	148,264	-----	25,237
New Mexico	255	29	(4)	376,907	631	26,998	21,095	903	1,420	79,751	-----	863	139,071	33	15	617,079	1,596	29,296
New York	-----	-----	-----	179,674	-----	17,322	638,734	1,097	56,132	-----	-----	-----	-----	-----	-----	818,408	1,097	73,454
Oklahoma	-----	-----	-----	479,289	2,228	10,243	70,024	771	994	-----	-----	-----	-----	-----	-----	549,313	2,999	11,237
Pennsylvania	-----	-----	-----	557,488	-----	28,080	-----	-----	-----	-----	-----	-----	-----	-----	-----	557,488	-----	28,080
Tennessee	-----	-----	-----	3,397,600	-----	92,422	-----	-----	-----	1,591,170	181	10,695	-----	-----	-----	4,988,770	181	103,117
Utah	2,271	234	95	-----	-----	-----	531,033	57,609	31,802	126,333	5,915	4,238	38,605	366	1,188	698,242	64,124	37,323
Virginia	-----	-----	-----	-----	-----	-----	636,095	3,078	17,666	-----	-----	-----	-----	-----	-----	636,095	3,078	17,666
Washington	-----	-----	-----	500,304	1,935	12,863	594,659	3,924	11,909	-----	-----	-----	-----	-----	-----	1,094,963	5,859	24,772
Wisconsin	-----	-----	-----	936,432	1,694	24,775	-----	-----	-----	-----	-----	-----	-----	-----	-----	936,432	1,694	24,775
Total	5,722,029	163,599	8,734	8,080,928	13,453	297,962	4,305,595	123,096	203,537	2,268,860	16,401	32,863	19,372,879	10,819	29,462	39,750,291	327,368	572,558

[1] Lead and zinc recovered from other ores (copper, gold, silver, etc.) and from smelter slags, mill tailings, and miscellaneous cleanups.
[2] Combined with "other sources" to avoid disclosing individual company confidential data.
[3] Combined with "lead ore" to avoid disclosing individual company confidential data.
[4] Less than ½ unit.

Table 4.—Mine production of recoverable lead in the United States, by months

(Short tons)

Month	1965	1966	Month	1965	1966
January	24,053	26,206	August	25,575	28,547
February	23,322	24,734	September	25,865	27,811
March	26,529	30,650	October	26,028	28,521
April	26,176	26,945	November	25,821	27,154
May	22,065	27,399	December	29,219	27,483
June	23,802	26,453			
July	22,692	25,465	Total	301,147	327,368

Table 5.—Twenty-five leading lead-producing mines in the United States in 1966, in order of output

Rank	Mine	State	County	Operator	Source of lead
1	Viburnum	Missouri	Crawford, Iron, and Washington.	St. Joseph Lead Co.	Lead ore.
2	Federal	do	St. Francois	do	Do.
3	U.S. and Lark	Utah	Salt Lake	United States Smelting Refining and Mining Co.	Lead-zinc, lead ores.
4	Bunker Hill	Idaho	Shoshone	Bunker Hill Co.	Lead-zinc ore.
5	Burgin	Utah	Utah	Kennecott Copper Corp.	Do.
6	Lucky Friday	Idaho	Shoshone	Hecla Mining Co.	Lead ore.
7	Star-Morning	do	do	do	Lead-zinc ore.
8	Indian Creek	Missouri	Washington	St. Joseph Lead Co.	Lead ore.
9	Idarado	Colorado	Ouray and San Miguel.	Idarado Mining Co.	Copper-lead-zinc ore.
10	Mayflower	Utah	Wasatch	Hecla Mining Co.	Do.
11	United Park City	do	Summit and Wasatch.	United Park City Mines Co.	Lead-zinc, lead ores.
12	Page	Idaho	Shoshone	American Smelting and Refining Co.	Lead-zinc ore.
13	Iron King	Arizona	Yavapai	Shattuck Denn Mining Corp.	Do.
14	Pend Oreille	Washington	Pend Oreille	Pend Oreille Mines & Metals Co.	Do.
15	Sunnyside	Colorado	San Juan	Standard Metals Corp.	Do.
16	Austinville and Ivanhoe Mines.	Virginia	Wythe	The New Jersey Zinc Co.	Do.
17	Ophir	Utah	Tooele	United States Smelting Refining and Mining Co.	Do.
18	Silver Star-Queens	Idaho	Blaine	Federal Resources Corp.	Lead ore.
19	Eagle	Colorado	Eagle	The New Jersey Zinc Co.	Zinc, copper ores.
20	Pan American	Nevada	Lincoln	Grand Deposit Mining Co. and Combined Metals Reduction Co., joint venture.	Lead-zinc ore.
21	Butte Hill Zinc Mines.	Montana	Silver Bow	The Anaconda Company.	Zinc ore.
22	Dayrock	Idaho	Shoshone	Day Mines, Inc.	Lead ore.
23	Keystone	Colorado	Gunnison	McFarland & Hullinger.	Lead-zinc ore.
24	Van Stone	Washington	Stevens	American Smelting and Refining Co.	Zinc ore.
25	Emperius	Colorado	Mineral	Emperius Mining Co.	Lead-zinc ore.

Table 6.—Refined lead produced at primary refineries in the United States, by source material

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Refined lead:						
From primary sources:						
Domestic ores and base bullion	271,801	245,645	239,660	294,254	305,007	318,646
Foreign ores and base bullion	163,523	130,418	155,072	155,175	113,242	122,089
Total	435,324	376,063	394,732	449,429	418,249	440,735
From secondary sources	2,628	1,842	3,741	8,505	13,140	9,004
Grand total	437,952	377,905	398,473	457,934	431,389	449,739
Average sales price per pound	$0.119	$0.093	$0.108	$0.131	$0.156	$0.146
Calculated value of primary refined lead (thousands) [1]	$103,607	$69,948	$85,262	$117,750	$130,494	$128,695

[1] Excludes value of refined lead produced from scrap at primary refineries.

Table 7.—Antimonial lead produced at primary lead refineries in the United States

Year	Production (short tons)	Antimony content		Lead content by difference (short tons)			
		Short tons	Percent	From domestic ore	From foreign ore	From scrap	Total
1957–61 (average)	44,166	2,252	5.1	7,836	7,378	26,700	41,914
1962	33,325	2,249	6.7	14,838	12,545	3,693	31,076
1963	18,818	1,890	10.0	4,553	4,703	7,672	16,928
1964	24,023	1,995	8.3	4,522	4,085	13,421	22,028
1965	27,895	1,984	7.1	2,809	3,803	19,299	25,911
1966	24,059	2,119	8.8	6,025	5,157	10,758	21,940

Table 8.—Stocks and consumption of new and old lead scrap in the United States in 1966

(Short tons, gross weight)

Class of consumers and type of scrap	Stocks Jan. 1[r]	Receipts	Consumption			Stocks Dec. 31
			New scrap	Old scrap	Total	
Smelters and refiners:						
Soft lead	2,443	63,895	---	63,914	63,914	2,424
Hard lead	888	19,998	---	19,851	19,851	1,035
Cable lead	838	33,240	---	32,953	32,953	1,125
Battery-lead plates	22,523	447,066	---	442,019	442,019	27,570
Mixed common babbitt	185	4,259	---	4,230	4,230	214
Solder and tinny lead	193	16,129	---	16,011	16,011	311
Type metals	2,279	37,943	---	37,370	37,370	2,852
Drosses and residues	24,930	103,920	112,027	---	112,027	16,823
Total	54,279	726,450	112,027	616,348	728,375	52,354
Foundries and other manufacturers:						
Soft lead	56	328	---	345	345	39
Hard lead	43	101	---	71	71	73
Cable lead	3	84	---	44	44	43
Battery-lead plates	---	28	---	---	---	28
Mixed common babbitt	147	12,180	---	12,193	12,193	134
Solder and tinny lead	---	---	---	---	---	---
Type metals	---	---	---	---	---	---
Drosses and residues	132	---	6	---	6	126
Total	381	12,721	6	12,653	12,659	443
All consumers:						
Soft lead	2,499	64,223	---	64,259	64,259	2,463
Hard lead	931	20,099	---	19,922	19,922	1,108
Cable lead	841	33,324	---	32,997	32,997	1,168
Battery-lead plates	22,523	447,094	---	442,019	442,019	27,598
Mixed common babbitt	332	16,439	---	16,423	16,423	348
Solder and tinny lead	193	16,129	---	16,011	16,011	311
Type metals	2,279	37,943	---	37,370	37,370	2,852
Drosses and residues	25,062	103,920	112,033	---	112,033	16,949
Grand total	54,660	739,171	112,033	629,001	741,034	52,797

[r] Revised.

Table 9.—Secondary metal recovered[1] from lead and tin scrap in the United States in 1966, by type of products

(Short tons, gross weight)

	Lead	Tin	Antimony	Other	Total
Refined pig lead	131,464	---	---	---	131,464
Remelt lead	24,755	---	---	---	24,755
Total	156,219	---	---	---	156,219
Refined pig tin	---	3,296	---	---	3,296
Remelt tin	---	330	---	---	330
Total	---	3,626	---	---	3,626
Lead and tin alloys:					
Antimonial lead	283,735	356	16,895	321	301,307
Common babbitt	19,765	1,019	1,706	142	22,632
Genuine babbitt	50	236	23	10	319
Solder	35,841	6,471	552	88	42,952
Type metals	32,260	1,920	4,805	12	38,997
Cable lead	20,094	---	202	---	20,296
Miscellaneous alloys	1,415	581	75	124	2,195
Total	393,160	10,583	24,258	697	428,698
Tin content of chemical products	---	925	---	---	925
Grand total	549,379	15,134	24,258	697	589,468

[1] Most of the figures herein represent actual reported recovery of metal from scrap.

Table 10.—Secondary lead recovered in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
As metal:						
At primary plants	2,628	1,842	3,741	8,505	13,140	9,004
At other plants	128,751	116,626	130,788	140,702	168,774	147,215
Total	131,379	118,468	134,529	149,207	181,914	156,219
In antimonial lead:						
At primary plants	26,700	3,693	7,672	13,421	19,299	10,758
At other plants	181,001	225,699	237,125	257,101	251,354	272,977
Total	207,701	229,392	244,797	270,522	270,653	283,735
In other alloys	113,940	96,342	114,145	121,853	123,252	132,880
Grand total:						
Quantity	453,020	444,202	493,471	541,582	575,819	572,834
Value (thousands)	$108,198	$82,622	$106,590	$141,894	$179,656	$167,268

Table 11.—Lead recovered from scrap processed in the United States by kind of scrap and form of recovery

(Short tons)

Kind of scrap	1965	1966	Form of recovery	1965	1966
New scrap:			As soft lead:		
Lead-base	72,234	79,573	At primary plants	13,140	9,004
Copper-base	7,323	7,424	At other plants	168,774	147,215
Tin-base	528	508			
			Total	181,914	156,219
Total	80,085	87,505			
			In antimonial lead [1]	270,653	283,735
Old scrap:			In other lead alloys	108,170	108,264
Battery-lead plates	313,146	285,489	In copper-base alloys	15,022	24,566
All other lead-base	161,963	179,502	In tin-base alloys	60	50
Copper-base	20,621	20,334			
Tin-base	4	4	Total	393,905	416,615
Total	495,734	485,329	Grand total	575,819	572,834
Grand total	575,819	572,834			

[1] Includes 19,299 tons of lead recovered in antimonial lead from secondary sources at primary plants in 1965 and 10,758 tons in 1966.

Table 12.—Lead consumption in the United States, by products

(Short tons)

Product	1965	1966
Metal products:		
Ammunition	57,322	78,435
Bearing metals	21,600	21,588
Brass and bronze	23,699	25,447
Cable covering	59,645	66,491
Calking lead	66,584	63,250
Casting metals	5,046	6,671
Collapsible tubes	10,893	11,987
Foil	4,805	6,041
Pipes, traps, and bends	19,837	19,984
Sheet lead	27,569	28,938
Solder	77,819	78,898
Storage batteries:		
Battery grids, posts, etc	235,641	240,535
Battery oxides	219,706	231,957
Terne metal	2,109	1,966
Type metal	33,416	30,421
Total	865,691	912,609
Pigments:		
White lead	8,414	8,131
Red lead and litharge	79,853	89,500
Pigments—Continued		
Pigment colors	12,553	13,695
Other [1]	8,063	8,562
Total	108,883	119,888
Chemicals:		
Gasoline antiknock additives	225,203	246,879
Miscellaneous chemicals	346	614
Total	225,549	247,493
Miscellaneous uses:		
Annealing	5,719	5,441
Galvanizing	1,775	1,639
Lead plating	240	428
Weights and ballast	14,135	18,090
Total	21,869	25,598
Other, unclassified uses	19,490	18,289
Grand total [2]	1,241,482	1,323,877

[1] Includes lead content of leaded zinc oxide and other pigments.

[2] Includes lead which went directly from scrap to fabricated products.

Table 13.—Lead consumption in the United States, by months

(Short tons)

Month	1965	1966
January	104,881	104,651
February	100,024	101,506
March	104,192	114,570
April	100,743	106,834
May	100,762	113,649
June	104,363	110,555
July	90,836	93,236
August	101,417	114,046
September	107,198	110,951
October	113,162	120,575
November	110,509	118,641
December	103,395	114,663
Total [1]	1,241,482	1,323,877

[1] Includes lead content of leaded zinc oxide and other pigments and lead which went directly from scrap to fabricated products.

Table 14.—Lead consumption in the United States in 1966, by class of products and types of material

(Short tons)

Product	Soft lead	Lead in antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
Metal products	214,799	110,052	53,579	18,745	397,175
Storage batteries	237,371	234,587	40	------	471,998
Pigments	116,501	198	------	------	116,699
Chemicals	247,493	------	------	------	247,493
Miscellaneous	12,495	12,982	95	------	25,572
Unclassified	15,319	1,773	731	------	17,823
Total	843,978	359,592	54,445	18,745	[1] 1,276,760

[1] Excludes 43,928 tons of lead which went directly from scrap to fabricated products and 3,189 tons of lead contained in leaded zinc oxide and other nonspecified pigments.

Table 15.—Lead consumption in the United States in 1966, by States[1]

(Short tons)

State	Refined soft lead	Lead in antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
California	79,303	30,401	6,480	1,531	117,715
Colorado	1,461	2,939	110	-----	4,510
Connecticut	16,614	17,714	116	1,407	35,851
District of Columbia	154	-----	-----	-----	154
Florida	5,826	5,054	-----	-----	10,880
Georgia	32,378	10,650	2,837	-----	45,865
Illinois	83,088	52,405	10,689	2,311	148,493
Indiana	79,407	45,556	1,828	1,203	127,994
Kansas	9,559	9,674	15	373	19,621
Kentucky	1,885	4,493	2	6	6,386
Maryland	5,304	17,930	476	-----	23,710
Massachusetts	6,580	2,273	391	207	9,451
Michigan	20,408	19,438	1,795	725	42,366
Missouri	43,529	13,360	27	815	57,731
Nebraska	4,001	1,090	33	783	5,907
New Jersey	133,585	22,461	10,373	743	167,162
New York	41,345	3,454	11,725	869	57,393
Ohio	13,315	3,467	3,178	1,212	21,172
Pennsylvania	56,639	33,837	857	2,941	94,274
Rhode Island	950	523	35	-----	1,508
Tennessee	174	10,347	118	149	10,788
Virginia	1,823	1,378	656	1,135	4,992
Washington	7,419	630	329	-----	8,378
West Virginia	18,445	5,157	-----	-----	23,602
Wisconsin	3,141	2,758	134	259	6,292
Alabama and Mississippi	560	2,225	-----	740	3,525
Arkansas and Oklahoma	4,017	3,923	37	-----	7,977
Hawaii and Oregon	902	2,748	3	208	3,861
Iowa and Minnesota	4,383	7,748	235	441	12,807
Louisiana and Texas	156,804	17,695	1,947	460	176,906
Montana and Idaho	6,049	-----	-----	-----	6,049
New Hampshire, Maine, Vermont and Delaware	4,003	5,537	19	227	9,786
North and South Carolina	811	2,727	-----	-----	3,538
Utah, Nevada, Arizona	116	-----	-----	-----	116
Total	843,978	359,592	54,445	18,745	1,276,760

[1] Excludes 43,928 tons of lead which went directly from scrap to fabricated products and 3,189 tons of lead contained in leaded zinc oxide and other non-specified pigments.

Table 16.—Production and shipments of lead pigments[1] and oxides in the United States

Pigment	1965				1966			
	Production (short tons)	Shipments			Production (short tons)	Shipments		
		Short tons	Value[2]			Short tons	Value[2]	
			Total	Average per ton			Total	Average per ton
White lead:								
Dry	8,787	10,266	$4,358,293	$425	9,680	10,909	$4,492,202	$412
In oil[3]	2,753	4,407	2,845,789	646	2,619	3,967	2,610,603	658
Total	11,540	14,673	7,204,082	491	12,299	14,876	7,102,805	477
Red lead	29,815	29,663	11,103,069	375	31,080	31,270	11,302,545	361
Litharge	105,634	105,892	37,963,871	359	108,098	110,303	37,580,505	341
Black oxide	192,655	-----	-----	-----	198,941	-----	-----	-----

[1] Except for basic lead sulfate, figures withheld to avoid disclosing individual company confidential data.

[2] At plant, exclusive of container.

[3] Weight of white lead only, but value of paste.

Table 17.—Lead content of lead and zinc pigments[1] and lead oxides produced by domestic manufacturers, by sources

(Short tons)

Pigment	1965				1966			
	Lead in pigments produced from—			Total lead in pigments	Lead in pigments produced from—			Total lead in pigments
	Ore		Pig lead		Ore		Pig lead	
	Domestic	Foreign			Domestic	Foreign		
White lead	-----	-----	9,232	9,232	-----	-----	9,839	9,839
Red lead	-----	-----	27,027	27,027	-----	-----	28,174	28,174
Litharge	-----	-----	98,240	98,240	-----	-----	100,531	100,531
Black oxide	-----	-----	184,774	184,774	-----	-----	190,931	190,931
Leaded zinc oxide	1,345	561	-----	1,906	1,247	528	-----	1,775
Total	1,345	561	319,273	321,179	1,247	528	329,475	331,250

[1] Excludes lead in basic lead sulfate; figures withheld to avoid disclosing individual company confidential data.

Table 18.—Distribution of white lead (dry and in oil) shipments,[1] by industries

(Short tons)

Industry	1957–61 (average)	1962	1963	1964	1965	1966
Paints	15,184	12,054	11,358	10,534	9,185	8,260
Ceramics	308	137	138	143	133	130
Other	3,573	4,008	3,906	4,769	5,355	6,486
Total	19,065	16,199	15,402	15,446	14,673	14,876

[1] Excludes basic lead sulfate; figures withheld to avoid disclosing individual company confidential data.

Table 19.—Distribution of red lead shipments, by industries

(Short tons)

Industry	1957–61 (average)	1962	1963	1964	1965	1966
Paints	13,523	13,716	13,213	14,133	13,725	14,480
Storage batteries	W	W	W	W	W	W
Ceramics	W	637	W	W	W	W
Other	9,753	11,164	13,032	13,957	15,938	16,790
Total	23,276	25,517	26,245	28,090	29,663	31,270

W Withheld to avoid disclosing individual company confidential data; included with "Other."

Table 20.—Distribution of litharge shipments, by industries

(Short tons)

Industry	1957–61 (average)	1962	1963	1964	1965	1966
Ceramics	W	17,752	17,762	20,508	21,013	23,476
Chrome pigments	W	W	5,763	6,426	W	W
Floor covering	W	W	W	W	W	W
Insecticides	W	W	W	W	1,161	1,166
Oil refining	2,714	2,404	1,973	2,142	2,886	1,991
Rubber	1,394	1,792	1,702	1,978	2,153	2,296
Storage batteries	W	W	W	W	W	W
Varnish	3,608	4,083	4,240	4,004	3,763	1,620
Other	92,795	77,366	72,394	64,335	74,916	79,754
Total	100,511	103,397	103,834	99,393	105,892	110,303

W Withheld to avoid disclosing individual company confidential data; included with "Other."

Table 21.—U.S. imports for consumption of lead pigments and compounds

Kind	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
White lead	1,631	$581	1,915	$668
Red lead	524	145	2,130	591
Litharge	22,208	5,375	25,638	5,685
Other lead pigments	5	15	78	19
Other lead compounds	203	67	736	390
Total	24,571	6,183	30,497	7,353

Table 22.—Stocks of lead at primary smelters and refineries in the United States, Dec. 31

(Short tons)

Stocks	1957–61 (average)	1962	1963	1964	1965	1966
Refined pig lead	140,318	136,544	48,780	34,100	17,524	16,175
Lead in antimonial lead	11,018	5,975	7,890	4,012	7,680	6,396
Lead in base bullion	14,837	10,392	14,947	13,218	10,735	15,606
Lead in ore and matte	46,133	43,750	49,219	33,068	47,504	77,296
Total	212,306	196,661	120,836	84,398	83,443	115,473

Table 23.—Consumer stocks of lead in the United States, Dec. 31, by types of material

(Short tons, lead content)

Year	Refined soft lead	Lead in antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
1962	51,121	34,389	6,817	1,169	93,496
1963	71,558	40,606	6,558	1,208	119,930
1964	69,361	35,163	7,933	987	113,444
1965	61,586	36,190	10,406	1,013	109,195
1966	44,490	34,704	10,071	1,041	90,306

Table 24.—Average monthly and yearly quoted prices of lead at St. Louis, New York and London [1]

(Cents per pound)

Month	1965			1966		
	St. Louis	New York	London [2]	St. Louis	New York	London [2]
January	15.80	16.00	15.73	15.80	16.00	13.68
February	15.80	16.00	17.64	15.80	16.00	13.23
March	15.80	16.00	17.88	15.80	16.00	13.26
April	15.80	16.00	15.99	15.80	16.00	12.69
May	15.80	16.00	13.72	14.94	15.14	11.84
June	15.80	16.00	12.61	14.80	15.00	11.71
July	15.80	16.00	12.28	14.80	15.00	11.90
August	15.80	16.00	12.30	14.80	15.00	11.93
September	15.80	16.00	13.11	14.80	15.00	11.41
October	15.80	16.00	13.93	14.04	14.24	10.57
November	15.80	16.00	13.59	13.80	14.00	10.07
December	15.80	16.00	13.66	13.80	14.00	10.14
Average	15.80	16.00	14.37	14.92	15.12	11.87

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[1] St. Louis: Metal Statistics, 1966. New York: Metal Statistics, 1966. London: E&MJ Metal and Mineral Markets.

[2] Based on monthly rates of exchange by Federal Reserve Board.

Table 25.—U.S. exports of lead, by countries [1]

(Short tons)

Destination	1957–61 (average)	1962	1963	1964	1965	1966
Ore, matte, base bullion (lead content): [2]						
North America	411	---	4	---	---	---
South America	---	---	---	12	---	---
Europe	21	7	---	---	---	---
Asia	1,143	2,891	---	7	---	---
Total ore, matte, base bullion	1,575	2,898	4	19	---	---
Pigs, bars, anodes:						
North America:						
Canada	80	39	112	104	213	299
Mexico	27	25	23	10	128	156
Other	140	66	95	209	426	425
Total	247	130	230	323	767	880
South America	239	588	188	105	1,053	1,816
Europe	121	28	153	7,330	4,366	1,755
Africa	3	9	10	33	42	17
Asia:						
Japan	462	---	---	553	585	15
Philippines	322	81	26	130	129	68
Taiwan	1,023	950	---	575	73	233
Other	93	321	478	1,115	778	637
Total	1,900	1,352	504	2,373	1,565	953
Oceania	1	1	3	11	18	14
Total pigs, bars, anodes	2,511	2,108	1,088	10,175	7,811	5,435
Scrap:						
North America	257	37	14	400	243	10
South America	1	15	8	---	---	5
Europe:						
Belgium-Luxembourg	139	328	1,182	1,566	---	101
Germany, West	198	119	498	632	161	---
Italy	72	289	---	15	2,348	5
Netherlands	294	159	72	296	235	238
Spain	---	53	12	112	---	---
United Kingdom	607	786	519	1,293	83	138
Yugoslavia	---	---	---	2,943	584	---
Other	44	63	29	42	126	---
Total	1,354	1,797	2,312	6,899	3,537	482
Asia:						
Japan	543	593	85	5,847	12	---
Other	2	19	2	2	1	1
Total	545	612	87	5,849	13	1
Total scrap	2,157	2,461	2,421	13,148	3,793	498
Grand total	6,243	7,467	3,513	23,342	11,604	5,933

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[1] In addition foreign lead was reexported as follows: Ore, matte and base bullion, 1957–61 (average) less than 1 ton; 1962–64 none; 1965, class no longer separately classified. Pigs, bars, anodes, 1957–61 (average) 140 tons; 1962–63 none; 1964, 4,367 tons; 1965, 659 tons; 1966, 7 tons. Scrap, 1957–61 (average) 2 tons; 1962–64 none; 1965, 99 tons; 1966, none.

[2] Effective Jan. 1, 1965, no longer separately classified.

Table 26.—U.S. imports[1] of lead, by countries

(Short tons)

Country	1957-61 (average)	1962	1963	1964	1965	1966
Ore, flue dust, and matte (lead content):						
North America:						
Canada	28,104	27,728	23,634	27,951	43,622	52,707
Guatemala	5,153	2,135	305	5	18	35
Honduras	4,119	4,965	6,809	6,375	8,712	11,132
Mexico	1,705	1,180	1,071	1,069	760	624
Other	1,126	---	---	---	---	---
Total	40,207	36,008	31,819	35,400	53,112	64,498
South America:						
Bolivia	12,929	8,242	9,791	6,073	5,096	11,136
Colombia	570	439	9	---	677	445
Peru	45,712	32,999	43,950	28,243	26,419	41,610
Other	757	---	---	---	---	7
Total	59,968	41,680	53,750	34,316	32,192	53,198
Europe	251	280	---	---	---	2,110
Africa:						
Morocco	1,048	---	---	---	23	13
South Africa, Republic of	38,890	33,881	34,273	34,080	10,570	1,394
Other	5	---	---	---	---	---
Total	39,943	33,881	34,273	34,080	10,593	1,407
Asia:						
Philippines	546	57	23	58	106	164
Other	218	181	244	117	---	---
Total	764	238	267	175	106	164
Oceania: Australia	25,225	26,544	27,633	19,286	26,658	22,614
Total ore, flue dust, and matte	166,358	138,631	147,742	123,257	122,661	143,991
Base bullion (lead content):						
North America	132	5	851	1,449	93	609
South America	136	2,080	2,647	603	25	64
Europe	(2)	---	2	---	(2)	56
Oceania	---	2,514	1,937	2,786	448	1,283
Total base bullion	268	4,599	5,437	4,838	566	2,012
Pigs and bars (lead content):						
North America:						
Canada	38,374	56,807	29,619	30,728	31,697	34,283
Mexico	92,691	65,892	74,466	71,728	73,546	75,294
Other	67	---	---	114	---	---
Total	131,132	122,699	104,085	102,570	105,243	109,577
South America:						
Peru	31,635	22,115	23,486	24,510	26,132	51,593
Other	349	---	36	---	38	383
Total	31,984	22,115	23,522	24,510	26,170	51,976
Europe:						
Belgium-Luxembourg	1,967	2,980	11,235	---	197	2,535
Denmark	749	---	---	700	514	672
Germany, West	1,791	914	277	5,017	1,653	15,499
Spain	7,879	4,104	7,694	949	243	---
United Kingdom	2,500	335	3,555	562	514	3,101
Yugoslavia	34,031	31,909	31,063	30,544	28,640	31,322
Other	1,448	12	---	834	531	6,135
Total	50,365	40,254	53,824	38,606	32,292	59,264
Africa	5,254	---	---	---	[r]3,165	13,134
Asia:						
Burma	---	---	---	---	---	5,532
Japan	---	---	---	---	4,638	1,719
Total	---	---	---	---	4,638	7,251
Oceania: Australia	65,072	72,133	45,596	42,158	51,105	44,187
Total pigs and bars	283,807	257,201	227,027	207,844	[r]222,613	285,389

See footnotes at end of table.

Table 26.—U.S. imports[1] of lead, by countries—Continued

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Reclaimed, scrap, etc. (lead content):						
North America:						
Canada	2,443	1,279	3,243	1,959	2,919	2,543
Mexico	1,833	688	55	164	315	314
Other	304	186	162	46	10	455
Total	4,580	2,153	3,460	2,169	3,244	3,312
South America	45	---	---	---	---	14
Europe	60	17	13	---	6	13
Asia: Japan	8	2	---	---	42	---
Oceania:						
Australia	2,635	149	5,402	2,885	978	43
New Zealand	---	---	---	---	---	50
Total	2,635	149	5,402	2,885	978	93
Total reclaimed, scrap, etc.	7,328	2,321	8,875	5,054	4,270	3,432
Grand total	457,761	402,752	389,081	340,993	[r] 350,110	434,824

[r] Revised.

[1] Data are general imports; that is, they include lead imported for immediate consumption plus material entering the country under bond.

[2] Less than ½ unit.

Table 27.—U.S. imports for consumption [1] of lead, by countries

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Ore, flue dust, and matte (lead content):						
North America:						
Canada	29,943	29,523	30,937	27,973	33,637	23,617
Guatemala	4,855	4,691	387	5	18	---
Honduras	4,519	5,959	8,692	6,489	7,406	3,506
Mexico	2,480	1,899	1,850	458	577	425
Other	1,062	---	---	---	---	---
Total	42,859	42,072	41,866	34,925	41,638	27,548
South America:						
Bolivia	13,850	7,479	10,055	8,373	3,885	1,454
Colombia	672	480	95	---	439	228
Peru	49,459	32,327	32,140	32,314	30,732	10,177
Other	737	6	---	---	---	7
Total	64,718	40,292	42,290	40,687	35,056	11,866
Europe	26	220	---	---	---	---
Africa:						
Morocco	1,048	2	---	---	23	13
South Africa, Republic of	38,548	29,756	29,740	29,760	28,712	2,963
Other	369	---	---	---	---	---
Total	39,965	29,758	29,740	29,760	28,735	2,976
Asia:						
Philippines	569	111	31	86	96	---
Other	214	---	223	121	---	---
Total	783	111	254	207	96	---
Oceania: Australia	28,219	20,627	21,295	22,488	23,408	21,460
Total ore, flue dust, and matte	176,570	133,080	135,445	128,067	128,933	63,850
Base bullion (lead content):						
North America	86	5	964	3,094	93	536
South America	115	2,078	854	603	25	64
Europe	(2)	---	3	560	(2)	56
Oceania	---	---	1,937	2,786	448	1,272
Total base bullion	201	2,083	3,758	7,043	566	1,928
Pigs and bars (lead content):						
North America:						
Canada	38,414	56,807	29,674	30,777	31,697	34,283
Mexico	88,989	68,147	78,254	72,078	73,386	75,394
Other	59	---	---	45	69	---
Total	127,462	124,954	107,928	102,900	105,152	109,677
South America:						
Peru	31,647	22,103	22,224	23,114	27,484	51,593
Other	349	---	35	---	38	383
Total	31,996	22,103	22,259	23,114	27,522	51,976
Europe:						
Belgium-Luxembourg	1,960	1,685	4,366	4,375	422	2,535
Denmark	729	---	---	700	514	672
Germany, West	1,747	614	577	3,692	2,161	15,499
Netherlands	90	12	---	---	224	5,137
Spain	7,745	3,958	7,713	847	22	---
United Kingdom	2,481	---	1,462	1,697	425	3,101
Yugoslavia	33,963	32,240	31,063	30,544	28,639	31,322
Other	1,117	---	---	834	307	998
Total	49,832	38,509	45,181	42,689	32,714	59,264
Africa:						
Morocco	5,011	---	---	---	112	---
South Africa, Republic of	168	---	---	---	r 3,002	11,925
Other	232	---	---	---	112	1,148
Total	5,411	---	---	---	r 3,226	13,073

See footnotes at end of table.

Table 27.—U.S. imports for consumption [1] of lead, by countries—Continued

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Pigs and Bars (lead content)—Continued						
Asia:						
Burma	---	---	---	---	---	5,532
Japan	---	---	---	---	4,363	2,106
Total	---	---	---	---	4,363	7,638
Oceania: Australia	64,673	72,300	45,030	42,437	50,484	44,160
Total pigs and bars	279,374	257,866	220,398	211,140	[r]223,461	285,788
Reclaimed, scrap, etc. (lead content):						
North America:						
Canada	2,447	1,240	3,218	1,716	3,127	2,807
Mexico	2,253	612	55	164	328	314
Other	357	58	288	26	55	462
Total	5,057	1,910	3,561	1,906	3,510	3,583
South America	97	---	903	---	15	164
Europe	152	17	12	1	22	98
Asia: Japan	8	2	---	---	42	---
Oceania:						
Australia	1,403	149	10,929	---	23	61
New Zealand	---	---	---	---	---	50
Total	1,403	149	10,929	---	23	111
Total reclaimed, scrap, etc	6,717	2,078	15,405	1,907	3,612	3,956
Sheets, pipe, and shot:						
North America:						
Canada	226	49	35	78	83	30
Mexico	1,077	---	---	---	265	---
Other	4	---	---	---	---	---
Total	1,307	49	35	78	348	30
Europe	2,255	2,197	2,389	1,445	503	889
Asia	8	30	5	(2)	---	---
Oceania	---	---	---	---	29	---
Total sheets, pipe and shot	3,570	2,276	2,429	1,523	880	919
Grand total	466,432	397,383	377,435	349,680	[r]357,452	356,441

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[r] Revised.

[1] Excludes imports for manufacture in bond and export, classified as "Imports for consumption" by the Bureau of the Census.

[2] Less than ½ unit.

Table 28.—U.S. imports for consumption of lead, by classes [1]

Year	Lead in ore, flue dust or fume, and matte, n.s.p.f. (lead content)		Lead in base bullion (lead content)		Pigs and bars (lead content)		Reclaimed, scrap, etc. (lead content)		Sheets, pipe, and shot		Not otherwise specified value (thousands)	Total value (thousands)
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)		
1957–61 (average)	176,570	$38,448	201	$55	279,374	$60,433	6,717	$1,202	3,570	$832	$582	101,552
1962	133,080	21,003	2,083	710	257,866	41,570	2,078	269	2,276	474	978	65,004
1963	135,445	21,534	3,758	1,792	220,398	40,126	15,405	2,009	2,429	513	792	66,766
1964	128,067	21,789	7,043	2,058	211,140	45,790	1,907	350	1,523	369	713	71,069
1965	128,933	26,923	566	380	r 223,461	r 60,924	3,612	793	880	273	329	r 89,622
1966	63,850	13,871	1,928	575	285,788	75,312	3,956	886	919	283	277	91,204

[1] Excludes imports for consumption in bond and export, classified as "Imports for consumption" by the Bureau of the Census.

Table 29.—U.S. imports for consumption of miscellaneous products containing lead

Year	Babbitt metal, solder, white metal, and other combinations containing lead			Type metal and antimonial lead		
	Gross weight (short tons)	Lead content (short tons)	Value (thousands)	Gross weight (short tons)	Lead content (short tons)	Value (thousands)
1957–61 (average)	7,358	2,164	$10,955	5,409	4,817	$1,246
1962	2,438	1,030	3,443	8,576	7,512	1,393
1963	2,535	1,246	3,207	[1] 3,747	[1] 3,196	[1] 621
1964	2,805	1,228	5,077	NA	NA	NA
1965	3,299	986	8,129	NA	NA	NA
1966	1,589	731	3,203	NA	NA	NA

NA Not available.

[1] Due to changes in classification, effective Sept. 1, 1963, data no longer separately classified. January–August data tabulated.

Table 30.—World mine production of lead (content of ore) recoverable where indicated, by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	211,321	198,988	206,359	[r] 302,952	324,490
Greenland	891	-----	-----	-----	-----
Guatemala [3]	1,067	825	[e] 550	[e] 550	[e] 660
Honduras	6,522	10,910	8,250	10,642	12,207
Mexico	213,074	209,425	192,710	187,494	[e] 197,000
United States [3]	236,956	253,369	286,010	301,147	327,368
South America:					
Argentina	32,606	29,173	28,576	[r] 35,534	34,722
Bolivia	20,375	20,989	18,180	[r] 17,914	22,193
Brazil [e]	16,800	19,200	16,200	18,300	24,700
Chile	[r] 1,882	[r] 1,199	1,230	[r] 892	976
Colombia	[e] 440	331	534	507	658
Ecuador	137	179	183	[r] 126	76
Peru [3]	141,290	[r] 164,461	166,089	[r] 170,135	159,570
Europe:					
Austria [3]	5,855	5,504	5,727	5,553	5,336
Bulgaria	104,058	97,995	100,641	[e] 110,200	[e] 110,200
Czechoslovakia [e]	14,900	14,900	14,900	15,400	15,400
Finland	3,161	1,262	2,083	6,952	5,107
France	15,735	9,255	13,437	[r] 19,898	26,018
Germany:					
East [e]	7,700	11,000	11,000	11,000	11,000
West	54,925	58,243	53,944	[r] 54,727	61,099
Greece	14,110	[e] 14,550	15,873	9,315	10,748
Hungary	992	1,102	1,323	[r] 1,543	[e] 1,540
Ireland	-----	-----	[r] 1,323	2,853	42,076
Italy	[r] 47,222	36,266	36,333	39,104	40,264
Norway	3,153	3,297	[r] 3,945	4,553	4,211
Poland	41,778	42,659	[r] 42,218	[r] 45,415	56,549
Portugal	49	247	216	[r] 168	1,898
Rumania [e] [4]	13,800	13,800	14,000	16,500	44,100
Spain	78,262	68,557	64,356	62,223	68,774
Sweden	74,721	[r] 78,293	[r] 74,373	[r] 75,949	76,280
U.S.S.R. [e] [4]	390,000	390,000	400,000	410,000	410,000
United Kingdom	446	276	198	101	-----
Yugoslavia	112,430	125,535	124,677	117,122	117,376
Africa:					
Algeria	9,965	[r] 9,039	10,525	11,514	[e] 4,630
Congo (Brazzaville)	368	364	2,391	[e] 3,100	[e] 3,900
Congo (Kinshasa)	312	1,306	1,152	1,709	NA
Morocco	99,323	81,540	78,584	85,000	85,536
Nigeria	-----	-----	-----	[e] 770	[e] 1,760
South Africa, Republic of	6	16	-----	53	20
South-West Africa [3]	83,080	83,220	104,023	96,789	93,745
Tunisia	14,936	15,697	[r] 13,944	[r] 17,494	17,561
United Arab Republic (Egypt) [e]	595	550	-----	-----	17
Zambia [4]	16,343	21,615	14,508	23,529	20,679
Asia:					
Burma	22,377	22,064	[r] 20,723	[r] [e] 22,000	[e] 20,400
China, mainland [e]	99,000	110,000	110,000	110,000	110,000
India	5,065	4,758	4,966	4,388	4,116
Iran [e] [5]	11,000	11,000	[r] 16,500	18,700	22,000
Japan	58,924	58,110	59,604	[r] 60,550	69,593
Korea:					
North [e]	55,000	55,000	60,000	65,000	65,000
South	1,558	2,113	3,691	4,878	7,656
Philippines	90	78	114	116	101
Thailand	2,600	2,496	4,080	6,152	7,436
Turkey	4,299	2,811	1,792	1,854	1,031
Oceania: Australia	414,524	459,527	[r] 419,839	[r] 405,594	405,247
World total [e]	2,765,000	2,820,000	[r] 2,830,000	[r] 2,990,000	3,155,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Data derived in part from International Lead and Zinc Study Group Monthly Bulletin, United Nations Statistical Yearbook, Yearbook of the American Bureau of Metal Statistics, annual issues of Statistical Summary of the Mineral Industry (Overseas Geological Surveys, London), and Metal Statistics (Metallgesellschaft) Germany.

[2] Compiled mostly from data available July 1967.

[3] Recoverable.

[4] Smelter production.

[5] Year ended March 21 of year following that stated.

Table 31.—World smelter production of lead by countries[1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada (refined)	152,217	155,001	151,372	186,484	184,871
Guatemala	69	52	83	126	237
Mexico	208,447	205,217	183,758	181,117	189,757
United States (refined) [3]	376,024	394,732	449,429	418,249	440,726
South America:					
Argentina	27,000	26,500	25,400	35,300	24,300
Bolivia (refined metal and solder)	138	280	508	1,032	1,245
Brazil	15,090	17,243	14,555	10,651	19,180
Chile	280	243	-----	-----	-----
Peru	75,356	[r] 89,427	98,904	[r] 95,688	97,843
Europe:					
Austria	[r] 9,264	[r] 7,083	9,365	8,481	7,907
Belgium [4]	102,681	108,504	91,840	122,089	102,139
Bulgaria	48,200	56,584	[r] 96,451	[r] 102,979	[e] 100,200
Czechoslovakia [e]	15,400	15,400	15,400	16,000	16,000
France	77,787	85,569	98,976	108,419	119,753
Germany:					
East [e] [4]	27,600	27,600	27,600	27,600	27,600
West	140,407	121,515	118,502	114,674	120,841
Greece	4,896	[r] 3,625	5,500	[e] 5,700	6,063
Hungary	550	440	220	220	[e] 220
Italy	[r] 42,702	46,228	[r] 41,792	[r] 43,463	59,034
Norway	-----	-----	4,400	1,900	NA
Poland	44,842	42,895	45,747	[r] 45,620	47,936
Portugal	2,227	1,232	1,506	[r] 1,442	1,160
Rumania [e]	13,800	13,800	14,000	17,000	44,000
Spain	79,666	68,436	63,927	57,735	60,775
Sweden	42,737	44,939	[r] 44,491	[r] 44,533	48,171
U.S.S.R. [e] [4]	390,000	390,000	400,000	410,000	410,000
United Kingdom	614	297	195	99	-----
Yugoslavia (refined)	107,945	114,832	111,427	111,889	107,503
Africa:					
Algeria	770	1,411	1,535	[e] 1,300	NA
Morocco	26,613	20,679	20,766	[r] 18,995	20,696
South-West Africa	-----	1,997	52,685	72,791	82,976
Tunisia [5]	17,447	13,898	[r] 13,331	[r] 15,627	15,403
Zambia	16,343	21,615	14,508	23,529	20,679
Asia:					
Burma	19,164	19,553	19,900	[e] 19,800	[e] 19,800
China, mainland [e]	95,000	99,000	110,000	110,000	110,000
India	3,140	3,899	3,995	3,202	2,733
Iran [6]	440	[e] 550	413	[e] 440	[e] 440
Japan	96,735	101,575	106,962	[r] 119,433	130,715
Korea: North [e]	45,000	45,000	50,000	55,000	55,000
South	-----	-----	[r] 40	900	1,772
Turkey	702	2,073	2,161	[r] 1,012	550
Oceania: Australia:					
Refined lead	212,941	251,558	227,473	216,504	216,092
Pb content of lead bullion (for export)	81,883	[r] 90,341	87,701	74,936	83,838
World total [e]	[r] 2,620,000	[r] 2,710,000	2,825,000	2,905,000	2,995,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Data derived in part from International Lead and Zinc Study Group Monthly Bulletin, United Nations Statistical Yearbook, Yearbook of the American Bureau of Metal Statistics, annual issues of Statistical Summary of the Mineral Industry (Overseas Geological Surveys, London), and Metal Statistics (Metallgesellschaft) Germany.

[2] Compiled mostly from data available July 1967.

[3] Figures cover lead refined from domestic and foreign ores; refined lead produced from foreign base bullion not included.

[4] Includes scrap.

[5] Lead bars only; does not include lead contained in antimonial lead or solder.

[6] Year ended March 21 of year following that stated.

Table 32.—World trade of lead ores and concentrates in 1966

(Thousand short tons of contained metal unless otherwise specified)

Destination[1]	Exporting regions								
	North America[2]	Latin America[2]	Western Europe[3]	Eastern Europe[3]	Africa	Asia	Oceania	Origin not reported by continent	Total
United States	54.1	65.0	2.1	---	1.4	.1	22.6	.2	145.5
Western Europe:									
Belgium-Luxembourg[4]	59.2	.4	10.3	---	79.5	---	---	9.5	159.0
France	1.7	8.0	19.3	---	38.7	.6	20.8	---	89.1
West Germany	24.2	18.4	46.7	10.8	12.9	4.4	.3	---	117.8
United Kingdom	5.6	---	---	---	---	.3	8.9	9.7	24.5
Other[5]	---	---	6.6	---	17.6	---	---	.1	24.3
Total[6]	90.7	26.9	82.9	10.8	148.7	5.3	30.1	19.3	414.7
Japan	19.0	5.6	---	---	---	7.8	18.0	---	50.4
Grand total[6]	163.8	97.4	85.0	10.8	150.1	13.2	70.7	19.5	610.6

[1] Compiled from import data of countries listed in destination column only, therefore incomplete; however imports by countries not listed are regarded as being relatively small with respect to total.

[2] Mexico included with Latin America.

[3] Eastern Europe comprises Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and U.S.S.R.; Yugoslavia is included with Western Europe.

[4] Data are for gross weight of ores and concentrates rather than contained metal, and cover January through October only.

[5] Austria and Italy.

[6] Total of listed figures, including gross weight of ores and concentrates for Belgium-Luxembourg and contained metal weight for all other countries.

Source: International Lead and Zinc Study Group. Lead and Zinc Statistics v. 7, No. 5, May 1967, p. 24.

Magnesium

Table 1.—Salient magnesium statistics

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Primary	44,641	68,955	75,845	79,488	81,861	79,794
Secondary	9,586	9,610	9,225	11,790	13,617	15,129
Shipments: Primary	48,625	69,410	72,255	74,580	85,796	96,443
Exports	2,731	6,426	15,484	15,949	17,836	14,869
Imports for consumption	704	2,359	1,850	2,227	2,551	3,265
Consumption	40,796	47,320	51,240	54,748	69,622	82,678
Price per pound cents	35.25	35.25	35.25	35.25	35.25	35.25
World: Primary production	101,560	147,200	159,900	166,200	178,300	175,200

Table 2.—Magnesium recovered from scrap processed in the United States, by kinds of scrap and forms of recovery

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Kind of scrap:						
New scrap:						
Magnesium-base	2,760	4,700	4,183	4,505	6,306	6,462
Aluminum-base	2,064	1,770	2,848	3,177	3,643	4,127
Total	4,824	6,470	7,031	7,682	9,949	10,589
Old scrap:						
Magnesium-base	4,092	2,620	1,150	2,998	2,232	3,321
Aluminum-base	670	520	1,044	1,110	1,436	1,219
Total	4,762	3,140	2,194	4,108	3,668	4,540
Grand total	9,586	9,610	9,225	11,790	13,617	15,129
Form of recovery:						
Magnesium alloy ingot[1]	3,195	1,110	2,227	2,875	2,138	5,202
Magnesium alloy castings (gross weight)	167	650	404	37	14	24
Magnesium alloy shapes	72	195	75	50	58	70
Aluminum alloys	2,942	1,850	3,839	4,468	7,947	6,336
Zinc and other alloys	245	560	435	23	23	17
Chemical and other dissipative uses	457	260	754	588	542	281
Cathodic protection	2,508	4,985	1,491	3,749	2,895	3,199
Total	9,586	9,610	9,225	11,790	13,617	15,129

[1] Figures include secondary magnesium content of both secondary and primary magnesium alloy ingot.

Table 3.—Consumption of primary magnesium (ingot equivalent and magnesium content of magnesium-base alloys) in the United States, by uses

(Short tons)

Use	1957–61 (average)	1962	1963	1964	1965	1966
For structural products:						
Castings:						
Sand	4,303	3,464	3,280	2,229	2,959	3,961
Die [1]	1,566	3,660	5,580	4,757	5,599	4,980
Permanent mold	730	901	1,400	732	814	632
Wrought products:						
Sheet and plate	4,730	6,352	5,650	4,897	4,937	6,075
Extrusions (structural shapes, tubing)	3,470	6,240	3,370	4,419	[2] 5,995	[2] 7,100
Forgings	744	415	220	293	W	W
Total	15,543	21,032	19,500	17,327	20,304	22,748
For distributive or sacrificial purposes:						
Powder	374	465	1,175	W	W	W
Aluminum alloys	13,805	18,405	21,780	21,880	26,266	30,862
Zinc alloys	(3)	100	70	99	136	100
Other alloys	668	896	1,420	1,705	2,216	1,975
Scavenger and deoxidizer	600	1,120	150	141	170	195
Chemical	279	430	470	2,684	3,806	4,604
Cathodic protection (anodes)	2,740	2,024	2,985	4,983	4,597	4,670
Reducing agent for titanium, zirconium, hafnium, uranium, and beryllium [4]	6,750	2,843	3,070	3,764	8,467	8,429
Other [5]	37	5	620	2,165	3,660	9,095
Total	25,253	26,288	31,740	37,421	49,318	59,930
Grand total	40,796	47,320	51,240	54,748	69,622	82,678

W Withheld to avoid disclosing individual company confidential data.

[1] Includes primary metal to produce small quantities of investment castings.

[2] Includes "Forgings."

[3] Before 1962, included with "Other alloys."

[4] Quantity used for reduction of uranium not included in 1964.

[5] Includes primary metal for experimental purposes, debismuthizing lead, and producing nodular iron, and secondary magnesium alloys and powder.

Table 4.—Stocks and consumption of new and old magnesium scrap in the United States in 1966

(Short tons)

Scrap item	Stocks, Jan. 1	Receipts	Consumption			Stocks, Dec. 31
			New scrap	Old scrap	Total	
Cast scrap	r 427	4,434	169	4,058	4,227	634
Solid wrought scrap	r 498	4,774	4,304	----	4,304	968
Borings, turnings, drosses, etc.	261	4,655	3,418	----	3,418	1,498
Total	r 1,186	13,863	7,891	4,058	11,949	3,100

r Revised.

Table 5.—U.S. exports of magnesium, by classes and countries

(Short tons)

Destination	1965		1966	
	Primary metal, alloys, and scrap	Semifabricated forms, n.e.c. including powder	Primary metal, alloys, and scrap	Semifabricated forms, n.e.c. including powder
North America:				
Canada	1,747	188	1,930	319
Mexico	477	2	689	32
Other	3	8	2	2
Total	2,227	198	2,621	353
South America:				
Brazil	811	1	1,372	---
Venezuela	11	15	54	16
Other	132	38	102	33
Total	954	54	1,528	49
Europe:				
Belgium-Luxembourg	90	8	84	13
France	190	21	43	26
Germany, West	12,009	84	8,099	19
Italy	63	19	62	22
Netherlands	160	4	2	27
Spain	163	---	210	1
Switzerland	34	4	19	4
United Kingdom	424	19	1,064	10
Yugoslavia	597	---	55	---
Other	95	32	119	18
Total	13,825	191	9,757	140
Africa	49	(1)	27	4
Asia:				
India	63	---	153	---
Israel	8	6	11	3
Japan	334	4	291	14
Other	47	11	47	6
Total	452	21	502	23
Oceania	329	20	434	10
Grand total	17,836	484	14,869	579

(1) Less than ½ unit.

Table 6.—U.S. exports and imports for consumption of magnesium

Year	Exports					
	Metal and alloys in crude form and scrap		Semifabricated forms n.e.c.		Powder	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)	2,731	$1,705	622	$977	17	$38
1962	6,426	3,656	594	1,003	21	53
1963	15,484	8,599	690	1,188	33	87
1964	15,949	8,848	862	1,354	8	29
1965	17,836	10,265	484	1,260	(1)	(1)
1966	14,869	8,853	579	1,387	(1)	(1)
	Imports					
	Metallic and scrap		Alloys (magnesium content)		Powder, sheets, tubing, ribbons, wire, and other forms (magnesium content)	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)	704	$350	26	$187	12	$75
1962	2,359	1,080	53	106	35	83
1963	1,850	733	485	660	18	112
1964	2,227	890	474	710	40	70
1965	2,551	1,101	327	760	103	128
1966	3,265	1,613	689	1,656	5	36

[1] Beginning Jan. 1, 1965, no longer separately classified; included with semi-fabricated forms, n.e.c.

Table 7.—World production of primary magnesium, by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Canada	8,816	8,907	9,353	[r] 10,108	6,786
China [e]	1,000	1,000	1,000	1,000	1,000
France	2,337	1,921	[r] 1,090	3,131	3,765
Germany, West [2]	550	550	550	550	550
Italy	6,288	6,092	6,645	[r] 6,959	[e] 6,800
Japan	[3] 2,301	[3] 2,689	[3] 3,237	[r] [3] 4,172	[e] 4,200
Norway	16,400	22,700	24,300	[r] 29,134	[e] 30,300
U.S.S.R. [e]	35,000	35,000	35,000	36,000	36,000
United Kingdom [4]	5,559	5,219	5,499	[r] 5,925	[e] 6,000
United States	68,955	75,845	79,488	81,361	79,794
World total [e]	147,200	159,900	166,200	[r] 178,300	175,200

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available April 1967.

[2] Estimate according to the 53rd Annual issue of Metal Statistics (Metallgesellschaft), except for 1966.

[3] In addition, the following amounts of secondary magnesium were produced: 1962, 2,130; 1963, 1,556; 1964, 2,478; and 1965, 4,590 short tons.

[4] Primary metal and remelt alloys.

Manganese

Table 1.—Salient manganese statistics in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Manganese ore (35 percent or more Mn):						
Production (shipments):						
Metallurgical	204,970	19,007	7,402	19,126	22,871	W
Battery	[1] 4,813	5,729	3,220	6,932	6,387	W
Miscellaneous	7	22	----	----	------	----
Total	209,790	24,758	10,622	26,058	29,258	14,406
Imports, general	2,519,567	1,970,152	2,093,473	2,064,990	2,575,229	2,553,704
Consumption	1,822,537	1,865,272	1,841,725	2,241,756	2,872,720	2,369,293
Manganiferous ore (5 to 35 percent Mn):						
Production (shipments)	547,957	338,501	543,125	238,776	332,763	324,926
Ferromanganese:						
Production	761,098	781,112	751,198	929,486	1,148,011	946,210
Exports	2,194	4,114	678	3,903	3,273	545
Imports for consumption	166,846	126,716	148,630	212,629	257,339	251,972
Consumption	788,776	805,441	892,884	1,007,623	1,040,502	1,048,429

W Withheld to avoid disclosing individual company confidential data.

[1] Battery ore included in metallurgical in 1958.

Table 2.—Manganese and manganiferous ore shipped [1] in the United States, by States

(Short tons)

Type and State	1965		1966	
	Gross weight	Manganese content	Gross weight	Manganese content
Manganese ore (35 percent or more Mn, natural):				
Montana	23,621	12,014	W	W
New Mexico	5,637	2,631	W	W
Total	29,258	14,645	14,406	6,486
Manganiferous ore:				
Ferruginous mnaganese ore (10 to 35 percent Mn, natural):				
Minnesota	243,818	31,078	271,062	36,684
Montana	1,968	540	1,755	464
New Mexico	50,090	5,560	47,590	5,606
Total	295,876	37,178	320,407	42,754
Manganiferous iron ore (5 to 10 percent Mn, natural): Minnesota	36,887	2,684	4,519	388
Total	36,887	2,684	4,519	388
Total manganiferous ore	332,763	39,862	324,926	43,142
Value manganese and manganiferous ore	$4,049,513	---------	$3,094,034	---------

W Withheld to avoid disclosing individual company confidential data.

[1] Shipments are used as the measure of manganese production for compiling U.S. mineral production value. They are taken at the point at which the material is considered to be in marketable form for the consumer. Besides direct-shipping ore, they include, without duplication, concentrate and nodules made from domestic ores.

Table 3.—Consumption and stocks of manganese ore [1] in the United States

(Short tons)

Use and ore source	Consumption		Stocks Dec. 31, 1966 [2] (including bonded warehouses)
	1965	1966	
Manganese alloys and manganese metal:			
Domestic ore	12,067	30,043	240
Foreign ore	r 2,692,290	2,133,925	1,768,874
Total	r 2,704,357	2,163,968	1,769,114
Steel ingots:			
Domestic ore	--------	--------	--------
Foreign ore	100	--------	--------
Total	100	--------	--------
Steel castings:			
Domestic ore	--------	--------	--------
Foreign ore	46	39	44
Total	46	39	44
Pig Iron:			
Domestic ore	2,063	195	618
Foreign ore	25,709	42,746	29,056
Total	27,772	42,941	29,674
Dry cells:			
Domestic ore	4,738	3,549	229
Foreign ore	29,127	30,651	25,227
Total	33,865	34,200	25,456
Chemicals and miscellaneous:			
Domestic ore	5,476	12,372	12,563
Foreign ore	101,104	115,773	47,766
Total	106,580	128,145	60,329
Grand total:			
Domestic ore	24,344	46,159	13,650
Foreign ore	r 2,848,376	2,323,134	1,870,967
Total	r 2,872,720	2,369,293	[3] 1,884,617

r Revised.

[1] Containing 35 percent or more manganese (natural).

[2] Excluding Government stocks.

[3] Excludes small tonnages of dealers' stocks.

Table 4.—Consumption, by end uses, and stocks of manganese ferroalloys and metal in the United States in 1966

(Short tons)

Use	Ferromanganese		Silico-manga-nese	Spiegel-eisen	Manga-nese metal[1]	Briquets
	High carbon	Medium and low carbon				
Steel ingots:						
Stainless steel	907	3,181	10,200	41	8,130	------
Other alloy steel	192,639	34,008	43,328	3,364	2,747	13
Carbon steel	704,579	62,367	94,166	15,522	6,283	2,701
Other	522	116	762	------	49	------
Total	898,647	99,672	148,456	18,927	17,209	2,714
Steel castings:						
Stainless steel	337	429	900	------	124	------
Other alloy steel	10,886	1,601	7,916	209	21	62
Carbon steel	6,828	1,925	11,903	967	9	218
Other	4,942	513	720	3	------	------
Total	22,993	4,468	21,439	1,179	154	280
Steel mill rolls	1,577	207	815	793	------	8
Gray and malleable iron castings	11,380	825	1,780	10,893	2	9,350
Alloys (includes welding rods)	6,785	785	1,626	------	7,018	32
Other	888	202	41	------	455	73
Grand total	942,270	106,159	174,157	31,792	24,838	12,457
Sotcks, Dec. 31:[2] Consumer	119,007	10,309	16,171	3,814	3,420	1,600

[1] Virtually all electrolytic.

[2] Including bonded warehouses. Producer stocks of ferromanganese, silicomanganese, spiegeleisen, manganese metal, and briquets totaled 124,000 short tons. Excluding Government stocks.

Table 5.—Ferromanganese produced in the United States and metalliferous materials[1] consumed in its manufacture

Year	Ferromanganese produced			Materials consumed			Manganese ore used per ton of ferro-manganese[2] made (short tons)
	Gross weight (short tons)	Manganese content		Manganese ore (35 percent or more Mn natural)		Iron and manga-niferous iron ores (short tons)	
		Percent	Short tons	Foreign (short tons)	Domestic (short tons)		
1957–61 (average)	761,098	77.4	589,240	[3] 1,589,831	[3] 21,969	1,807	2.1
1962	781,112	77.2	602,854	[2] 1,673,227	17,417	96	2.2
1963	751,198	77.2	579,852	[2] 1,617,112	------	----	2.2
1964	929,486	77.8	722,752	[3] 2,082,074	10,371	----	2.2
1965	1,148,011	77.8	892,725	r [3] 2,692,290	12,067	----	2.3
1966	946,210	78.7	744,359	[3] 2,133,925	30,043	----	2.2

r Revised.

[1] Excluding scrap and other secondary materials.

[2] Includes ore used in producing silicomanganese.

[3] Includes ore used in producing silicomanganese and metal.

Table 6.—Manganese ore used in producing ferromanganese, silicomanganese, and manganese metal in the United States, by source of ore

Source	1965		1966	
	Gross weight (short tons)	Mn content, natural (percent)	Gross weight (short tons)	Mn content, natural (percent)
Domestic	12,067	55.6	30,043	44.3
Foreign:				
Africa	1,505,782	47.6	1,100,164	45.8
Brazil	526,376	45.8	532,237	47.1
Chile	4,088	48.4	3,129	48.8
Cuba	9,048	44.1	194	49.3
Guyana	111,778	38.0	68,222	38.8
India	221,564	43.2	151,975	45.7
Mexico	110,046	38.4	50,535	44.0
Philippines	15,110	45.0	--------	----
Other or unidentified	r 188,498	----	227,469	----
Total	r 2,704,357	46.0	2,163,968	46.1

r Revised.

Table 7.—U.S. imports of manganese ore (35 percent or more Mn), by countries

Country	General imports[1] (short tons)				Imports for consumption[2]					
					Short tons				Value (thousands)	
	Gross weight		Mn content		Gross weight		Mn content			
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
North America:										
Canada	--------	(3)	--------	(3)	--------	(3)	--------	(3)	--------	(3)
Guatemala	--------	272	--------	139	--------	272	--------	139	--------	$ 10
Mexico	99,984	44,008	45,437	19,985	111,070	44,064	50,593	20,011	$ 3,100	1,251
Total	99,984	44,280	45,437	20,124	111,070	44,336	50,593	20,150	3,100	1,261
South America:										
Brazil	553,028	682,921	255,703	321,501	1,528,795	780,297	725,386	371,269	49,941	22,491
Chile	9,607	683	4,606	321	9,607	683	4,606	321	302	13
Guyana	129,580	50,579	49,442	19,500	177,936	50,654	72,016	19,538	3,445	1,035
Peru	528	--------	243	--------	528	--------	243	--------	14	--------
Total	692,743	734,183	309,994	341,322	1,716,866	831,634	802,251	391,128	53,702	23,539
Europe: Greece	10,995	7,235	5,278	3,504	11,613	7,235	5,612	3,504	630	397
Africa:										
Angola[4]	40,206	29,270	19,578	14,327	53,009	29,270	26,091	14,327	1,351	895
Burundi and Rwanda[5]	7,063	--------	3,000	--------	7,063	--------	3,000	--------	166	--------
Congo (Kinshasa)	245,582	221,128	122,707	109,244	343,704	221,554	172,860	109,470	9,648	6,764
Gabon[6]	290,178	376,534	144,818	188,558	304,658	376,534	151,626	188,558	8,978	10,688
Ghana	245,018	287,367	122,582	143,324	312,553	287,448	157,107	143,371	8,823	12,456
Ivory Coast[7]	77,422	72,847	32,364	33,435	77,422	72,847	32,364	33,435	1,509	1,630
Mauritania[5]	37,804	--------	18,903	--------	37,804	--------	18,903	--------	1,203	--------
Morocco	28,000	43,337	14,586	22,447	28,000	43,337	14,586	22,447	1,394	2,022
Portuguese Western Africa, n.e.c.[4]	--------	6,720	--------	3,030	--------	6,720	--------	3,030	--------	162
South Africa, Republic of	204,139	260,679	85,865	116,275	205,667	260,679	86,462	116,275	3,920	5,081
Western Africa, n.e.c.[8]	312,273	138,100	152,152	66,643	314,362	138,100	153,215	66,643	8,561	3,621
Zambia	3,365	1,123	1,851	619	3,365	1,123	1,851	619	136	49
Total	1,491,050	1,437,105	718,406	697,902	1,687,607	1,437,612	818,065	698,175	45,689	43,368
Asia:										
Goa	9,912	--------	5,343	--------	9,912	--------	5,343	--------	84	--------
India	255,995	320,723	118,459	144,385	303,979	320,926	137,235	144,484	6,199	8,268
Iran	--------	8,900	--------	3,560	--------	8,900	--------	3,560	--------	182
Japan	99	138	40	56	99	138	40	56	14	17
Taiwan	18	--------	8	--------	18	--------	8	--------	7	--------
Turkey	5,451	1,140	2,071	433	5,451	1,140	2,071	433	72	15
Total	271,475	330,901	125,921	148,434	319,459	331,104	144,697	148,533	6,376	8,482
Oceania: British Western Pacific Islands	8,982	--------	4,491	--------	8,982	--------	4,491	--------	250	--------
Grand total	2,575,229	2,553,704	1,209,527	1,211,286	3,855,597	2,651,921	1,825,709	1,261,490	109,747	77,047

[1] Comprises ore received in the United States; part went into consumption during the year, and the remainder entered bonded warehouses.

[2] Comprises ore received during the year for immediate consumption and material withdrawn from bonded warehouses.

[3] Less than ½ unit. [4] An appreciable part of this ore possibly originated in Congo (Kinshasa).

[5] Apparently incorrectly classified as to country or commodity.

[6] In addition, Gabon imports reported as Western Africa, n.e.c. were approximately 271,000 tons (gross weight) in 1965, and approximately 121,000 tons (gross weight) in 1966.

[7] In addition, Ivory Coast imports reported as Western Africa, n.e.c. were approximately 41,000 tons (gross weight) in 1965 and approximately 17,000 tons in 1966. [8] Actually from Gabon and Ivory Coast.

Table 8.—U.S. imports for consumption of ferromanganese, by countries

Country	1965			1966		
	Gross weight (short tons)	Mn content (short tons)	Value (thousands)	Gross weight (short tons)	Mn content (short tons)	Value (thousands)
North America: Canada	7,284	5,640	$ 1,045	5,250	4,191	$ 1,063
South America:						
Brazil	661	430	61	------	------	------
Chile	729	557	88	158	137	27
Peru	27	20	3	------	------	------
Total	1,417	1,007	152	158	137	27
Europe:						
Belgium-Luxembourg	16,621	12,751	1,839	21,753	16,653	2,348
France	69,167	52,847	7,501	61,067	46,970	6,510
Germany, West	33,561	25,707	3,530	52,602	39,855	5,594
Italy	1,384	1,115	280	1,620	1,297	312
Netherlands	915	680	92	------	------	------
Norway	224	175	21	14,991	11,538	1,640
Spain	6,410	5,068	928	1,653	1,283	170
Sweden	------	------	------	3,991	3,250	612
United Kingdom	11,017	8,468	1,165	19,527	15,198	2,103
Yugoslavia	904	705	96	------	------	------
Total	140,203	107,516	15,452	177,204	136,044	19,289
Africa:						
Mozambique	------	------	------	2,238	1,745	244
South Africa, Republic of	34,035	26,667	3,689	26,384	20,608	2,863
Zambia, Southern Rhodesia, and Malawi	58	46	6	------	------	------
Total	34,093	26,713	3,695	28,622	22,353	3,107
Asia:						
India	64,029	48,990	8,932	13,077	10,001	1,911
Japan	10,313	8,252	2,210	14,558	11,577	2,841
Total	74,342	57,242	11,142	27,635	21,578	4,752
Oceania: Australia	------	------	------	13,103	10,260	1,217
Grand total	257,339	198,118	31,486	251,972	194,563	29,455

Table 9.—World production of manganese ore by countries [1]

(Short tons)

Country	Percent Mn [e]	1962	1963	1964	1965	1966 [p] [2]
North America:						
Cuba [e]	35–50	83,000	83,400	83,400	83,000	83,000
Mexico [e] [3]	45+	[r] 154,300	[r] 132,300	[r] 154,300	[r] 143,300	90,400
United States (shipments)	35+	24,758	10,622	26,058	29,258	14,406
South America:						
Argentina	30–40	13,921	12,436	21,385	[r] 22,440	[e] 23,000
Bolivia (exports)	NA	291	------	------		
Brazil	38–50	1,290,461	1,382,727	1,490,077	[r] 1,538,893	1,366,093
Chile	43–47	47,578	51,234	21,893	18,285	19,754
Guyana	37–42	303,636	157,331	130,907	186,137	201,600
Peru	42–45	7,403	[r] 571	[r] 410	[r] 1,091	937
Europe:						
Bulgaria	30+	38,581	42,432	57,320	[r] 46,297	[e] 46,300
Greece	35+	15,097	[r] 21,278	[e] 33,100	[e] 77,200	[e] 82,700
Hungary	30—	142,447	167,960	188,711	[r] 234,792	[e] 237,000
Italy	30—	48,966	49,887	52,694	52,701	48,440
Portugal	38+	12,666	9,434	7,711	[r] 8,559	9,488
Rumania	35	208,337	286,601	[e] 110,000	[r] 138,891	[e] 150,000
Spain	30+	14,101	16,858	17,762	18,912	20,948
U.S.S.R.[4]	NA	7,057,000	7,345,000	7,822,000	[r] 8,351,000	[e] 8,818,000
Yugoslavia	30+	16,357	8,964	8,580	8,925	9,498
Africa:						
Angola	38–48	9,115	------	------	------	20,448
Botswana	30+	26,458	11,877	[r] 30,639	9,717	[e] 7,700
Congo (Kinshasa)	48+	348,547	297,660	341,385	416,205	274,809
Ethiopia (shipments)	51	6,614	NA	NA	NA	NA
Gabon	50–53	224,038	[r] 701,716	[r] 1,057,750	[r] 1,411,393	1,403,814
Ghana [5]	48	418,263	[r] 449,121	509,341	665,821	647,422
Ivory Coast	32–47	117,928	153,291	150,383	198,179	194,212
Morocco	35–50	517,377	369,217	375,974	414,337	399,499
Rhodesia, Southern	30+	7,977	------	160	[e] 230	NA
South Africa, Republic of	30+	1,614,599	1,441,503	1,455,271	1,727,822	1,866,166
South-West Africa	45+	------	------	------	4,185	25,367
Sudan	36–44	1,120	[e] 300	[e] 9,400	1,102	1,653
United Arab Republic (Egypt) [6]	35+	42,577	[e] [r] 23,791	[e] 47,000	[e] 26,000	[e] 26,000
Zambia	35+	63,432	[r] 38,486	[r] 40,091	33,965	29,434
Asia:						
Burma	42+	213	[e] 220	------	NA	NA
China, Mainland [e]	30+	882,000	1,102,000	1,102,000	1,102,000	1,102,000
India including Goa	32–50	1,429,034	1,427,953	1,548,519	1,779,413	1,847,000
Indonesia	35–49	7,176	3,136	6,200	[e] 5,800	5,500
Iran	NA	[r] 6,100	[r] 16,500	[r] 35,300	[r] 37,500	[e] 42,000
Japan	32–40	340,162	305,028	313,825	[r] 333,950	341,842
Korea, South	40+	1,105	4,580	4,753	7,376	6,583
Malaysia	30+	341	7,696	------	1,754	21,687
Pakistan	42+	1,036	1,553	1,098	[e] 1,100	[e] 1,100
Philippines	35+	13,160	8,450	8,824	57,038	61,832
Thailand	40+	3,194	7,285	12,185	36,848	77,825
Turkey	30–50	23,422	6,949	22,366	15,675	10,685
Oceania:						
Australia	41–54	80,244	40,389	[r] 68,442	[r] 114,152	311,361
Fiji	40+	1,202	3,621	1,004	6,040	5,778
New Hebrides	49–55	21,859	28,016	66,430	73,535	84,040
Papua	46	------	4	3	------	------
World total [e]	------	[r] 15,688,000	[r] 16,175,000	[r] 17,435,000	[r] 19,444,000	[r] 20,037,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Czechoslovakia and Sweden report production of manganese ore (approximately 13 to 17 percent manganese content), but since the manganese content averages substantially less than 30 percent, the output is not included in this table. Czechoslovakia averages annually around 100,000 short tons and Sweden approximately 13,000 tons for the last five years.

[2] Compiled mostly from data available June 1967.

[3] Calculated from reported content.

[4] Grade unstated. Source: The Industry of the U.S.S.R., Central Statistical Administration, (Moscow).

[5] Dry weight.

[6] In addition to high-grade ore shown in the table, Egypt produced the following tonnages of less than 30 percent manganese content: 1962, 162,102; 1963, 160,626 (revised estimate); 1964, [e] 314,000; 1965, [e] 174,000; 1966, [e] 179,000.

Mercury [1]

Table 1.—Salient mercury statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Producing mines	87	56	48	72	149	130
Production ......flasks	33,767	26,277	19,117	14,142	19,582	22,008
Value ......thousands	$7,528	$5,024	$3,623	$4,452	$11,176	$9,722
Exports ......flasks	704	224	187	188	7,543	357
Reexports ......do	1,052	257	40	196	494	476
Imports:						
For consumption ......do	26,831	31,552	42,872	41,153	16,238	31,364
General ......do	27,745	31,516	43,126	41,107	17,838	34,540
Stocks Dec. 31 ......do	17,507	14,924	12,181	16,108	19,132	20,076
Consumption ......do	53,466	65,301	77,963	82,608	73,560	72,033
Price: New York, average per flask	$222.38	$191.21	$189.45	$314.79	$570.75	$441.72
World:						
Production ......flasks	238,200	245,000	239,000	255,000	276,000	266,000
Price: London, average per flask	$207.14	$172.79	$171.42	$282.25	$607.85	$447.68

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[1] Flasks as used in this section refers to a 76-pound flask.

Six mines produced more than 1,000 flasks:

State:	*County*	*Mine*
Nevada	Humboldt	Cordero
California	Kings	Little King
Do	San Benito	New Idria
Do	San Luis Obispo	Buena Vista
Do	Sonoma	Mr. Jackson
Idaho	Washington	Idaho-Almaden

The following properties produced 500 to 1,000 flasks:

State:	*County*	*Mine*
California	Santa Barbara	Gibraltar (Sunbird)
Do	Santa Clara	New Almaden
Do	Sonoma	Socrates
Oregon	Lane	Black Butte

The following 14 mines produced 100 to 500 flasks:

State:	*County*	*Mine*
Nevada	Esmeralda	B & B
Do	Pershing	Brinkerhoff (Loretta)
Do	----do	Kitten Springs
California	Contra Costa	Mt. Diablo
Do	Kern	Tehachapi (Walabu)
Do	Napa	Knoxville
Do	San Benito	North Star
Do	Santa Clara	Guadalupe
Do	Trinity	Altoona
Alaska	Aniak	White Mountain
Arizona	Maricopa	Big Sam
Do	----do	Pine Mountain
Texas	Presidio	Fresno
Oregon	Malheur	Bretz

Table 2.—Mercury produced in the United States, by States

Year and State	Producing mines	Flasks	Value [1] (thousands)
1965:			
Arizona	7	158	$90
California	84	13,404	7,650
Idaho	2	1,119	639
Nevada	42	3,333	1,902
Oregon	7	1,364	779
Alaska, Texas, Washington	7	204	116
Total	149	19,582	11,176
1966:			
Arizona	7	363	160
California	71	16,070	7,100
Idaho	2	1,134	501
Nevada	29	3,355	1,482
Oregon	8	700	309
Alaska, Arkansas, Texas	13	386	170
Total	130	22,008	9,722

[1] Value calculated at average New York price.

Table 3.—Mercury ore treated and mercury produced in the United States [1]

Year	Ore treated (short tons)	Mercury produced: Flasks	Mercury produced: Pounds per ton of ore
1957–61 (average)	286,774	33,423	8.9
1962	146,523	26,228	13.6
1963	113,539	19,101	12.8
1964	149,950	14,115	7.2
1965	339,124	19,582	4.3
1966	321,151	22,008	5.2

[1] Excludes mercury produced from placer operations and from cleanup at furnaces and other plants.

Table 4.—Production of secondary mercury in the United States

Year:	[1] *Flasks*
1961	8,360
1962	5,800
1963	10,520
1964	[r] 24,519
1965	[r] 46,670
1966	16,400

[r] Revised.
[1] Includes GSA releases.

Table 5.—Mercury consumed in the United States by uses

(Flasks)

Use	1957–61 (average)	1962	1963	1964	1965	1966
Agriculture (includes fungicides and bactericides for industrial purposes)	6,455	4,266	2,538	3,144	3,116	2,374
Amalgamation	258	299	306	667	495	485
Catalysts	873	874	612	656	924	1,932
Dental preparations [1]	1,775	2,033	2,346	2,612	1,619	1,350
Electrical apparatus [1]	9,383	11,564	11,115	10,690	[r] 13,931	13,643
Electrolytic preparation of chlorine and caustic soda	5,333	7,314	7,999	9,572	8,753	11,541
General laboratory use:						
Commercial	1,152	1,752	1,241	1,516	[r] 1,077	1,569
Government	-----	-----	3,821	17,000	-----	-----
Industrial and control instruments	6,080	5,186	4,943	4,972	4,628	4,280
Paint:						
Antifouling	3,022	124	252	547	255	140
Mildew proofing	NA	4,554	6,403	4,898	7,534	7,762
Paper and pulp manufacture	NA	2,600	2,831	2,148	619	612
Pharmaceuticals	1,828	3,378	4,081	5,047	3,261	3,668
Redistilled [1]	9,435	8,987	9,227	11,405	[r] 11,946	7,045
Other [2]	7,872	12,370	20,248	7,734	15,402	15,632
Total	53,466	65,301	77,963	82,608	[r] 73,560	72,033

[r] Revised. NA Not available.

[1] A breakdown of the "redistilled" classification showed ranges of 45 to 38 percent for instruments, 21 to 8 percent for dental preparations, 44 to 24 percent for electrical apparatus, and 21 to 9 percent for miscellaneous uses in 1961–65, compared with 44 percent for instruments, 11 percent for dental preparations, 19 percent for electrical apparatus, 9 percent for general laboratory, 7 percent for mildewproofing, and 10 percent for miscellaneous uses in 1966.

[2] Includes mercury used for installation of new chlorine and caustic soda plants and vermilion.

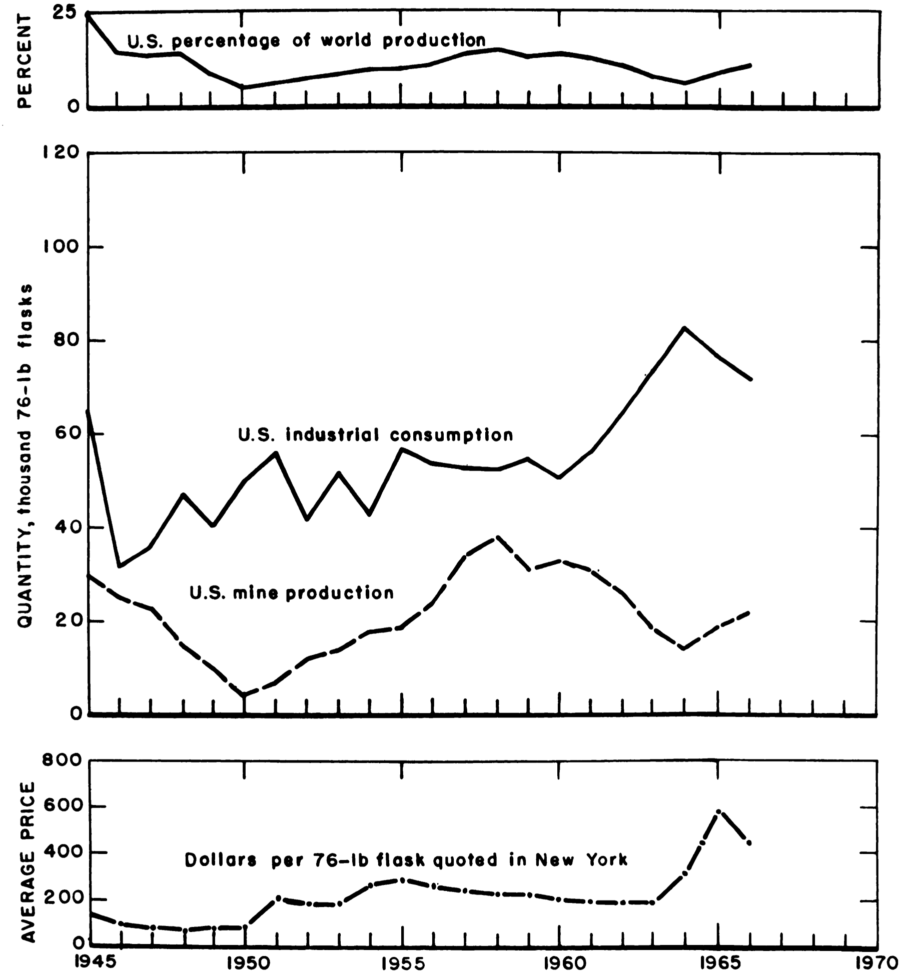

Figure 1.—Trends in production, consumption, and price of mercury

Table 6.—Stocks of mercury, December 31

(Flasks)

Year	Producer	Consumer and dealer	Total	Year	Producer	Consumer and dealer	Total
1957-61 (average)	2,147	15,360	17,507	1964	708	15,400	16,108
1962	1,224	13,700	14,924	1965	1,432	17,700	19,132
1963	1,581	10,600	12,181	1966	1,976	18,100	20,076

Table 7.—Average monthly prices of mercury at New York and London

(Per flask)

Month	1965		1966	
	New York [1]	London [2]	New York [1]	London [2]
January	$478.75	$432.65	$509.29	$545.36
February	475.00	475.17	457.63	496.74
March	475.00	493.91	411.52	448.63
April	499.29	552.25	397.15	406.79
May	628.75	573.41	368.33	356.02
June	709.09	691.09	334.09	318.04
July	673.81	739.62	378.50	359.06
August	595.68	739.56	427.83	414.83
September	624.05	718.75	463.10	458.84
October	610.95	693.77	532.62	499.00
November	545.50	588.78	536.05	544.26
December	533.10	560.42	484.52	527.33
Average	570.75	607.85	441.72	447.68

[1] Engineering and Mining Journal, New York.

[2] Mining Journal (London) prices in terms of pounds sterling were converted to U.S. dollars by using average rates of exchange recorded by Federal Reserve Board.

Table 8.—U.S. exports of mercury

Year	Flasks	Value (thousands)
1957–61 (average)	704	$165
1962	224	64
1963	187	46
1964	188	52
1965	7,543	5,031
1966	357	197

Table 9.—U.S. reexports of mercury

Year	Flasks	Value (thousands)
1957–61 (average)	1,052	$235
1962	257	43
1963	40	6
1964	196	50
1965	494	316
1966	476	280

Table 10.—U.S. imports for consumption [1] of mercury, by countries

Country	1957–61 (average)		1962		1963		1964		1965		1966	
	Flasks	Value (thousands)	Flasks	Value (thousands)	Flasks	Value (thousands)	Flasks	Value (thousands)	Flasks	Value (thousands)	Flasks	Value (thousands)
North America:												
Canada	57	$11	61	$10	150	$27	538	$136	32	$13	349	$74
Mexico	4,498	800	7,618	1,064	4,292	585	1,230	272	1,290	544	6,030	2,212
South America:												
Bolivia	4	1	---	---	---	---	106	15	50	18	---	---
Chile	310	61	200	31	740	112	---	---	---	---	---	---
Colombia	30	5	---	---	---	---	---	---	---	---	---	---
Peru	245	47	---	---	3,227	511	3,065	502	1,368	318	451	149
Europe:												
Germany, West	---	---	---	---	---	---	(2)	(2)	150	80	---	---
Italy	4,166	868	10,501	1,800	8,474	1,401	5,236	1,262	1,203	334	13,942	5,554
Netherlands	---	---	---	---	---	---	200	49	---	---	---	---
Spain	15,978	3,240	9,826	1,638	19,950	3,176	24,344	5,037	10,995	5,811	6,115	2,524
Sweden	---	---	70	10	---	---	---	---	---	---	---	---
United Kingdom	547	122	(2)	(2)	---	---	75	31	3	1	(2)	(2)
Yugoslavia	599	122	3,276	537	4,459	696	3,953	939	1,101	474	3,277	1,264
Asia:												
Israel	---	---	---	---	---	---	145	21	---	---	---	---
Japan	---	---	---	---	---	---	---	---	---	---	50	26
Philippines	300	63	---	---	1,580	258	1,550	383	---	---	1,150	519
Turkey	60	14	---	---	---	---	711	128	46	21	---	---
Oceania:												
Australia	25	5	---	---	---	---	---	---	---	---	---	---
New Zealand	12	2	---	---	---	---	---	---	---	---	---	---
Total	26,831	5,361	31,552	5,090	42,872	6,766	41,153	8,775	16,238	7,614	31,364	12,322

[1] Data include mercury imported for immediate consumption plus material withdrawn from bonded warehouses.

[2] Less than ½ unit.

Table 11.—U.S. imports[1] of mercury, by countries

Country	1957–61 (average)	1962	1963	1964	1965	1966
North America:						
Canada	57	61	150	538	32	132
Mexico	4,727	7,560	4,328	1,350	1,825	7,049
South America:						
Bolivia	4	--------	--------	106	50	--------
Chile	356	200	740	--------	--------	--------
Colombia	48	--------	--------	--------	--------	--------
Peru	248	--------	3,406	2,657	1,899	741
Europe:						
Germany, West	--------	--------	--------	(2)	150	--------
Italy	4,370	10,498	8,474	5,654	1,297	14,485
Netherlands	--------	--------	--------	200	--------	--------
Spain	16,227	9,826	19,950	24,344	10,996	7,656
Sweden	--------	70	--------	--------	--------	--------
United Kingdom	537	(2)	--------	75	3	(2)
Yugoslavia	774	3,301	4,498	3,778	1,451	3,277
Asia:						
Israel	--------	--------	--------	145	--------	--------
Japan	--------	--------	--------	--------	--------	50
Philippines	300	--------	1,580	1,550	--------	1,150
Turkey	60	--------	--------	710	135	--------
Oceania:						
Australia	25	--------	--------	--------	--------	--------
New Zealand	12	--------	--------	--------	--------	--------
Total	27,745	31,516	43,126	41,107	17,838	34,540

[1] Data are "general" imports; that is, they include mercury imported for immediate consumption plus material entering the country under bond.
[2] Less than ½ unit.

Table 12.—World production of mercury by countries

(76-pound flasks)

Country	1962	1963	1964	1965	1966[p] [1]
Bolivia (exports)	11	105	[2] 32	[r] 52	NA
Canada	------	------	73	20	------
Chile	791	613	[r] 267	[r] 428	[e] 110
China, mainland [e]	26,000	26,000	26,000	26,000	26,000
Colombia	------	3	3	[r] 46	[e] 46
Czechoslovakia [e]	725	725	725	730	[e] 730
Italy	54,506	54,448	57,001	[r] 57,320	53,549
Japan	4,199	4,668	4,812	[r] 4,536	[e] 4,500
Mexico	18,855	16,302	[r] 12,549	[r] 19,190	[e] 17,000
Peru	3,481	3,092	3,275	[r] 3,117	[e] 3,000
Philippines	2,767	2,651	2,496	[r] 2,384	[e] 2,400
Rumania	222	194	194	[r] 191	[e] 195
Spain	52,798	56,954	78,322	82,760	78,002
Tunisia	------	------	------	174	254
Turkey	2,687	3,042	2,615	[r] 2,755	[e] 3,000
United States	26,277	19,117	14,142	19,582	22,008
U.S.S.R. [e]	35,000	35,000	35,000	40,000	40,000
Yugoslavia	16,273	15,838	17,318	16,419	15,896
World total [e]	245,000	239,000	255,000	[r] 276,000	266,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.
[1] Compiled from data available April 1967.
[2] Purchases by Banco Minero.

Table 13.—Italy: Exports of mercury by countries

(Flasks)

Destination	1965	1966	Destination	1965	1966
Australia	490	206	Japan	[r] 12,020	4,778
Belgium-Luxembourg	[r] 901	99	Korea, South	348	--------
Bulgaria	--------	249	Netherlands	[r] 455	554
China	203	--------	Norway	[r] 300	--------
Czechoslovakia	[r] 1,580	200	Poland	[r] 726	1,009
France	2,782	1,769	Rumania	--------	499
Germany:			Sweden	[r] 583	360
East	[r] 1,121	2,425	United Kingdom	[r] 15,600	9,886
West	[r] 8,272	5,581	United States	[r] 4,454	16,561
Hungary	[r] 596	--------	Other countries	[r] 858	589
India	[r] 100	447			
Israel	--------	215	Total	[r] 51,389	45,427

[r] Revised.

Table 14.—Spain and Yugoslavia: Exports of mercury, by countries[1]

(Flasks)

Destination	Exporting countries			
	Spain		Yugoslavia	
	1964	1965	1964	1965
Australia	250	369	------	------
Austria	------	1,078	38	211
Belgium-Luxembourg	------	1,895	------	160
Canada	1,001	3,208	------	145
Czechoslovakia	600	300	290	290
France	3,212	6,854	------	------
Germany:	3,190	3,046	------	------
East	------	1,401	------	------
West	6,670	3,603	125	290
Hungary	------	200	------	------
India				
Italy	250	------	------	211
Japan	18,750	12,295	275	------
Malaysia	300	------	------	------
Netherlands	88	4,766	325	71
Norway	275	------	25	------
Poland	------	280	1,160	1,160
Portugal	683	239	------	------
Sweden	826	701	370	350
Switzerland	150	248	425	2,161
Taiwan	295	------	------	------
United Kingdom	8,957	9,849	------	300
United States	24,085	14,372	5,176	5,251
U.S.S.R.	------	------	2,611	3,191
Yugoslavia	1,001	------	------	------
Other countries	164	77	27	12
Total	70,747	64,781	10,847	13,803

[1] This table incorporates some revisions.

Molybdenum

Table 1.—Salient molybdenum statistics

(Thousand pounds of contained molybdenum and thousand dollars)

	1957-61 (average)	1962	1963	1964	1965	1966
United States:						
Concentrate:						
Production	57,516	51,244	65,011	65,605	77,372	90,532
Shipments	57,554	50,506	65,839	65,097	77,310	91,670
Value	$71,592	$69,390	$91,096	$97,121	$120,801	$144,327
Consumption	38,949	40,990	49,241	56,409	68,112	75,476
Imports for consumption	6	------	------	------	r 142	5
Stocks, Dec. 31: Mine and plant	4,621	3,490	2,436	4,303	4,208	3,433
Primary products:						
Production	37,877	40,074	48,756	55,946	66,616	74,392
Shipments	40,553	46,673	49,599	60,403	71,718	78,811
Consumption	30,211	35,674	37,478	43,119	48,621	52,324
Stocks, Dec. 31: Producer	6,612	3,068	4,504	4,398	3,839	5,945
Free world: Production	63,940	59,300	75,100	77,800	98,200	126,200

r Revised.

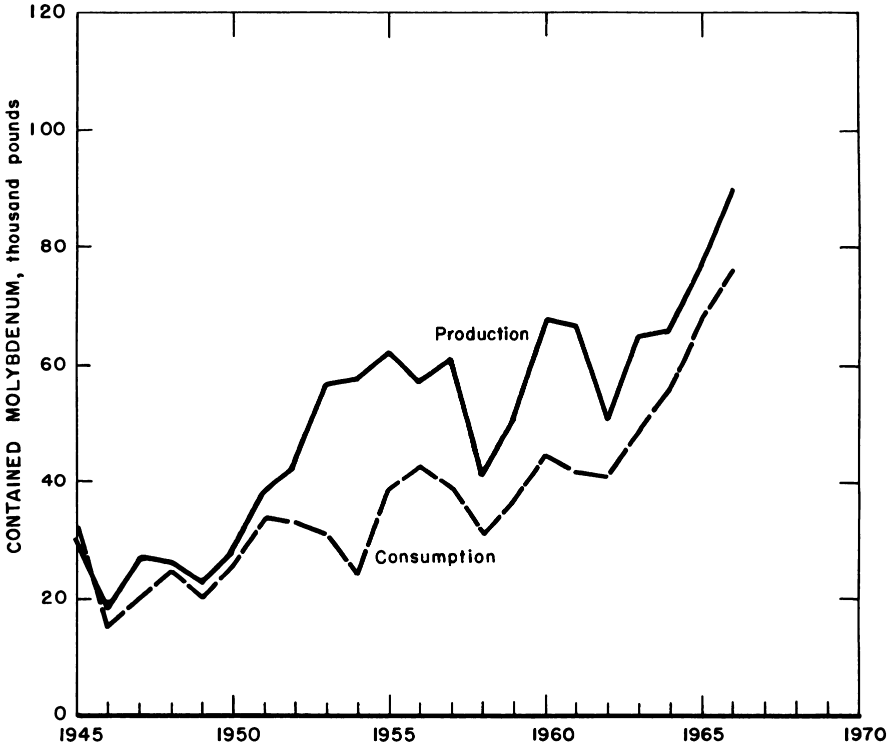

Figure 1.—Domestic molybdenum concentrate production and consumption.

Table 2.—Production, shipments, and stocks of molybdenum products in the United States

(Thousand pounds of contained molybdenum)

	Product											
	Molybdic oxide [1]		Metal powder		Ammonium molybdate		Sodium molybdate		Other [2]		Total	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Received from other producers	4,011	6,057	180	133	221	256	78	65	54	13	4,544	6,524
Gross production during year	61,153	68,490	3,171	4,652	2,405	2,660	705	901	15,134	18,226	82,568	94,929
Used to make other products listed here	13,440	16,730	797	1,710	1,696	2,073	12	3	7	21	15,952	20,537
Net production	47,713	51,760	2,374	2,942	709	587	693	898	15,127	18,205	66,616	74,392
Shipments:												
Domestic consumers	39,894	45,433	2,353	2,749	902	753	734	958	13,151	15,704	57,034	65,597
Exports	12,727	11,315	118	2	47	46	18	20	1,774	1,831	14,684	13,214
Total	52,621	56,748	2,471	2,751	949	799	752	978	14,925	17,535	71,718	78,811
Producer stocks, Dec. 31	1,879	2,949	335	659	185	229	53	38	1,387	2,070	3,839	5,945

[1] Includes molybdic oxide briquets, molybdic acid, and molybdenum trioxide.
[2] Includes ferromolybdenum, calcium molybdate, phosphomolybdic acid, molybdenum disulfide, pellets, molybdenum pentachloride, and molybdenum hexacarbonyl.

Table 3.—Consumption of molybdenum products by end uses, in 1966

(Thousand pounds, contained molybdenum)

End use	Molybdic oxides [1]	Ferro-molybdenum [2]	Molybdenum metal powder	Ammonium molybdate	Sodium molybdate	Other [3]	Total
Steel:							
High speed	2,439	1,166	2	------	------	45	3,652
Hot work tool	218	215	------	------	------	3	436
Other tool	610	224	1	------	------	4	839
Stainless	5,142	2,389	11	------	1	25	7,568
Other alloy [4]	20,593	2,089	29	------	------	32	22,743
Steel mill rolls	2,146	274	------	------	------	------	2,420
Gray and malleable castings	596	2,806	5	------	------	12	3,419
Welding rods	------	308	3	------	------	------	311
High-temperature alloys	1,106	866	58	------	------	1,034	3,064
Molybdenum powder:							
Wire, rod, sheet, and other	1	2	2,476	------	------	------	2,479
Chemicals:							
Inorganic pigments	514	------	------	11	81	------	606
Organic pigments	189	------	------	10	252	3	454
Catalysts	1,660	------	------	301	7	------	1,968
Miscellaneous [5]	190	957	69	6	36	1,107	2,365
Total	35,404	11,296	2,654	328	377	2,265	52,324
Stocks at consumers' plant Dec. 31	6,887	2,982	122	363	50	547	10,951

[1] Includes technical and purified oxides.
[2] Includes molybdenum silicide, and calcium molybdate.
[3] Includes thermite molybdenum and molybdenum pellets, purified molybdenum disulfide, and molybdenite concentrate added direct to steel.
[4] Includes quantities that were believed used in producing high-speed and stainless steels because some firms failed to specify individual uses.
[5] Includes magnets, other special alloys, friction material, lubricants, pesticides, refractories, packings, etc. and unspecified.

Table 4.—Molybdenum reported by producers as shipments for exports from the United States

(Thousand pounds of contained molybdenum)

Product	1965	1966
Molybdenite concentrate	[r] 12,513	15,140
Molybdic oxide	12,727	11,315
All other primary products	1,957	1,899

[r] Revised.

Table 5.—U.S. exports of molybdenum products

(Thousand pounds, gross weight)

Product and country	1965	1966
Ferromolybdenum [1]		
Australia	[r] 167	200
Belgium-Luxembourg	147	-----
Brazil	79	268
Canada	[r] 379	523
Germany, West	[r] 13	101
India	[r] 152	44
Italy	-----	62
Japan	109	-----
Mexico	[r] 61	28
Netherlands	[r] 49	433
South Africa, Republic of	[r] 202	174
Spain	[r] 136	93
Sweden	[r] 212	-----
United Kingdom	[r] 408	107
Other countries	[r] 115	167
Total	[r] 2,229	2,200
Value (thousands)	[r] $4,983	$4,085
Metal and alloys in crude form and scrap:		
Austria	2	-----
France	14	(2)
Germany, West	24	16
Italy	33	-----
Japan	2	20
Mexico	3	10
United Kingdom	26	5
Other countries	7	8
Total	111	59
Value (thousands)	$414	$251
Wire:		
Brazil	2	6
Canada	4	3
Chile	(2)	2
France	(2)	(2)
Wire—continued		
Germany, West	(2)	4
Mexico	2	2
Netherlands	7	-----
United Kingdom	2	(2)
Other countries	6	2
Total	23	19
Value (thousands)	$631	$624
Powder:		
Australia	227	-----
Austria	44	-----
Belgium-Luxembourg	2	(2)
France	3	1
Germany, West	78	76
Italy	132	(2)
Japan	16	4
Mexico	5	7
Sweden	29	19
United Kingdom	33	8
Venezuela	19	-----
Other countries	15	5
Total	603	120
Value (thousands)	$2,095	$502
Semifabricated forms, n.e.c.:		
Canada	7	24
France	2	2
Germany, West	3	1
Italy	13	(2)
Japan	3	8
Netherlands	2	2
United Kingdom	13	13
Other countries	23	22
Total	66	72
Value (thousands)	$516	$398

[r] Revised.

[1] Ferromolybdenum contains about 60 to 65 percent molybdenum.

[2] Less than ½ unit.

Table 6.—U.S. exports of molybdenum ore and concentrate (including roasted concentrate), by countries

(Thousand pounds and thousand dollars)

Destination	1965		1966	
	Molybdenum (content)	Value	Molybdenum (content)	Value
North America:				
Canada	541	$1,112	1,014	$1,469
Mexico	45	120	73	192
Total	586	1,232	1,087	1,661
South America:				
Brazil	22	55	14	20
Chile	25	44	16	28
Venezuela	90	180	131	272
Other	(1)	1	10	22
Total	137	280	171	342
Europe:				
Austria	1,874	3,240	473	935
Belgium-Luxembourg	2,075	3,638	2,726	4,955
France	2,736	4,402	1,978	4,008
Germany, West	5,315	10,832	4,779	10,160
Italy	1,185	1,903	1,084	1,875
Netherlands	1,486	2,665	11,551	19,317
Spain	13	25	2	5
Sweden	2,081	3,552	1,046	1,979
Switzerland	29	57	------	------
United Kingdom	2,891	5,097	1,145	2,145
Other	(1)	1	1	3
Total	19,685	35,412	24,785	45,382
Africa:				
Mauritius	------	------	10	14
South Africa, Republic of	6	14	45	73
Southern Rhodesia, Zambia and Malawi	2	3	------	------
Total	8	17	55	87
Asia:				
Japan	3,599	7,184	3,405	6,782
Philippines	6	10	10	19
Other	3	5	2	4
Total	3,608	7,199	3,417	6,805
Oceania:				
Australia	72	141	248	478
New Zealand	(1)	1	5	10
Total	72	142	253	488
Grand total	24,096	44,282	29,768	54,765

[1] Less than ½ unit.

Table 7.—U.S. import duties

(Per pound)

Item	Articles	Rate of duty [1]
601.33	Molybdenum ore	24 cents on molybdenum content.
603.40	Material in chief value molybdenum	20 cents on molybdenum content plus 6 percent ad valorem.
607.40	Ferromolybdenum	Do.
	Molybdenum:	
628.72	Unwrought	Do.
628.74	Wrought	25.5 percent ad valorem.
	Molybdenum chemicals:	
417.28	Ammonium molybdate	20 cents on molybdenum content plus 6 percent ad valorem.
419.60	Molybdenum compounds	Do.
420.22	Potassium molybdate	Do.
421.10	Sodium molybdate	Do.
473.18	Molybdenum orange	10 percent ad valorem.

[1] Not applicable to Communist countries.

Table 8.—Free world production of molybdenum in ores and concentrates by countries [1]

(Thousand pounds)

Country	1962	1963	1964	1965	1966 p [2]
Australia	2	13	------	26	e 7
Canada	818	834	1,225	r 9,557	21,493
Chile	5,256	6,400	r 8,393	r 7,943	10,439
Japan	825	732	619	r 611	e 540
Korea, South	163	154	265	r 448	659
Mexico	128	90	117	r 108	e 230
Norway	575	443	509	498	472
Peru	11	r 1,186	r 871	1,484	1,669
Philippines	249	236	231	170	e 110
United States	51,244	65,011	65,605	77,372	90,532
Free world total e	59,300	75,100	r 77,800	r 98,200	126,200

e Estimate. p Preliminary. r Revised.

[1] Molybdenum is also produced in Argentina, Bolivia, Bulgaria, Nigeria, North Korea, Rumania, South-West Africa, and Spain, but production is negligible.

[2] Compiled from data available May 1967.

Nickel

Table 1.—Salient nickel statistics

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production	13,395	13,110	13,394	15,420	16,188	15,036
Plant production:						
Primary	11,779	11,217	11,432	12,185	13,510	13,237
Secondary	9,801	11,108	18,996	23,114	19,407	26,777
Exports	30,024	27,641	60,927	68,502	20,935	26,364
Imports for consumption	114,400	123,000	119,000	129,000	163,000	141,000
Consumption	108,163	118,677	124,478	146,920	172,084	187,833
Stocks Dec. 31: Consumer	16,483	13,450	17,191	17,185	14,047	31,375
Price cents per pound	74–81¼	81¼–79	79	79	79–77¾	77¾–85¼
World: Production	325,400	394,000	392,000	423,000	481,000	475,000

Table 2.—Primary nickel produced in the United States

(Short tons, nickel content)

	1957–61 (average)	1962	1963	1964	1965	1966
Byproduct of copper refining	549	648	707	949	844	1,006
Domestic ore	11,230	10,569	10,725	11,236	12,666	12,231

Table 3.—Nickel recovered from nonferrous scrap processed in the United States, by kind of scrap and form of recovery

(Short tons)

Kind of scrap	1965	1966
New scrap:		
Nickel-base	3,182	3,126
Copper-base	3,290	6,476
Aluminum-base	520	595
Total	6,992	10,197
Old scrap:		
Nickel-base	11,328	15,297
Copper-base	687	893
Aluminum-base	400	390
Total	12,415	16,580
Grand total	19,407	26,777

Form of recovery	1965	1966
As metal	1,487	1,814
In nickel-base alloy	3,031	3,048
In copper-base alloys	3,855	8,020
In aluminum-base alloys	984	1,031
In ferrous and high-temperature alloys [1]	8,124	10,550
In chemical compounds	1,926	2,314
Total	19,407	26,777

[1] Includes only nonferrous nickel scrap added to ferrous and high-temperature alloys.

Table 4.—Stocks and consumption of new and old nickel scrap in the United States in 1966

(Gross weight, short tons)

Class of consumer and type of scrap	Stocks, beginning of year	Receipts	Consumption			Stocks, end of year
			New	Old	Total	
Smelters and refiners:						
Unalloyed nickel	179	1,149	611	590	1,201	127
Monel metal	592	2,197	270	1,996	2,266	523
Nickel silver [1]	754	5,882	729	5,014	5,743	893
Miscellaneous nickel alloys	7	5,537	1	5,536	5,537	7
Nickel residues	68	316	---	298	298	86
Total	846	9,199	882	8,420	9,302	743
Foundries and plants of other manufacturers:						
Unalloyed nickel	5,232	8,642	1,918	11,636	13,554	320
Monel metal	72	151	72	122	194	29
Nickel silver [1]	4,030	25,890	22,325	83	22,408	7,512
Miscellaneous nickel alloys	6	36	17	22	39	3
Nickel residues	495	2,496	2,211	175	2,386	605
Total	5,805	11,325	4,218	11,955	16,173	957
Grand total:						
Unalloyed nickel	5,411	9,791	2,529	12,226	14,755	447
Monel metal	664	2,348	342	2,118	2,460	552
Nickel silver [1]	4,784	31,772	23,054	5,097	28,151	8,405
Miscellaneous nickel alloys	13	5,573	18	5,558	5,576	10
Nickel residues	563	2,812	2,211	473	2,684	691
Total	6,651	20,524	5,100	20,375	25,475	1,700

[1] Excluded from totals because it is copper-base scrap, although containing considerable nickel.

Table 5.—Nickel (exclusive of scrap) consumed in the United States, by forms

(Short tons)

Form	1957–61 (average)	1962	1963	1964	1965	1966
Metal	86,615	103,485	110,365	123,443	146,357	132,573
Ferronickel						29,674
Oxide powder and oxide sinter	17,208	13,760	12,461	21,090	23,047	22,845
Matte	3,058	3	2	2	3	------
Salts [1]	1,282	1,429	1,650	2,385	2,677	2,741
Total	108,163	118,677	124,478	146,920	172,084	187,833

[1] Figures do not cover all consumers.

Table 6.—Nickel (exclusive of scrap) consumed in the United States, by uses

(Short tons)

Use	1957–61 (average)	1962	1963	1964	1965	1966
Alloy steels	16,461	18,608	19,727	24,679	27,009	27,807
Cast irons	4,699	5,503	5,901	6,605	6,937	7,286
Copper base alloys (including coinage)	------	------	------	------	------	[1] 9,937
Electrical resistance alloys [2]	9,835	12,862	13,505	15,291	18,464	5,423
Electroplating:						
Anodes	15,455	16,953	18,621	19,446	19,450	13,828
Solutions	897	904	1,050	1,645	2,037	1,925
Nickel alloys	26,492	28,215	24,794	23,639	37,082	[1] 47,366
Permanent magnets	823	910	777	664	828	807
Stainless and heat resisting steels	29,315	29,711	34,140	48,301	51,700	65,910
Other [3]	4,186	5,011	5,963	6,650	8,577	7,544
Total	108,163	118,677	124,478	146,920	172,084	187,833

[1] Copper base and nickel alloys formerly published together as nonferrous.
[2] Before 1966, included high temperature alloy, now shown under nickel alloys.
[3] Catalysts, ceramics, chemicals (other than electroplating), iron-nickel alloys, metal powder products, welding rods, etc.

Table 7.—Nickel (exclusive of scrap) in consumer stocks in the United States, by forms, Dec. 31

(Short tons)

Form	1964 [1]	1965 [1]	1966
Metal	14,901	11,320	21,085
Ferronickel	----	821	5,728
Oxide powder and oxide sinter	2,043	1,622	4,104
Matte	4	1	----
Salts	237	283	458
Total	17,185	14,047	31,375

[1] Incorporates some revisions.

Producer quotes for large lots of new nickel at yearend were as follows (contained nickel):

	Cents per pound
Inco, electrolytic, f.o.b. Port Colborne, Ontario (Nov. 1)	85.25
Nickel oxide sinter 75 at Buffalo, N. Y. or other established U.S. points of entry (Nov. 1)	81.00
Nickel oxide sinter 90, same basis as oxide sinter 75	81.25
Falconbridge, electrolytic, f.o.b. Thorold, Ontario (Dec. 1)	85.25
Sherritt Gordon, f.o.b. Niagara Falls, Ontario, or Ft. Saskatchewan, Alberta, or freight equal Pt. Colborne (Nov. 2):	
Briquets and S grade powder	85.25
Powder, grades C and F	90.25
Hanna, nickel in ferronickel, Riddle, Oreg., with freight equal oxide sinter (Nov. 3)	82.75

Dealer prices for nickel were quoted at $1.85-2.10 per pound in November by E&MJ Metal and Mineral Markets.

Table 8.—U.S. exports of nickel and nickel alloy products, by classes

(Short tons and thousand dollars)

Class	1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value
Ore, concentrate, and matte	8	$3	(1)	(1)	(1)	(1)
Unwrought	11,940	21,642	5,307	$8,155	11,433	$17,558
Bars, rods, angles, shapes and sections			2,937	7,851	2,828	8,689
Plates, sheets and strip			1,310	5,711	1,104	5,718
Anodes			276	552	194	403
Wire	445	1,929	380	1,914	475	2,203
Powders and flakes	(2)	(2)	253	1,356	334	1,376
Foil	(2)	(2)	4	15	13	71
Catalysts	1,002	2,013	2,547	6,064	3,135	6,589
Tubes, pipes, blanks and fittings therefor and hollow bars	939	4,754	1,198	4,748	972	3,214
Waste and scrap	54,168	13,770	6,723	4,168	5,876	6,229
Total	68,502	44,111	20,935	40,534	26,364	52,050

[1] No longer separately classified.
[2] Class established Jan. 1, 1965.

Table 9.—U.S. imports for consumption of nickel products, by classes

(Short tons)

Class	1964	1965	1966
Ore and matte	---	81	(1)
Unwrought (cathodes, shot, etc.)	102,538	r 132,559	112,836
Oxide and oxide sinter	16,862	r 13,600	7,711
Slurry [2]	15,483	24,057	20,400
Bars, plates, sheets	37	80	103
Rods and wire	391	267	340
Shapes, sections and angles	(1)	4	1
Pipes, tubes and fittings	66	35	14
Powder	2,790	2,640	4,123
Flakes	36	2	18
Waste and scrap	1,372	r 1,163	941
Ferronickel	(1)	32	11,898
Total: Gross weight	r 139,575	r 174,520	158,385
Nickel content (estimated)	129,000	163,000	141,000

r Revised.

[1] Less than ½ unit.

[2] Nickel-containing material in powder, slurry, or any form, derived from ore by chemical, physical, or any other means, and requiring further processing to recover nickel or other metals.

Table 10.—U.S. imports for consumption of new nickel products,[1] by countries

(Short tons)

Country	Metal		Oxide and oxide sinter		Slurry and other [2]			
	1965	1966	1965	1966	1965		1966	
	Gross weight	Gross weight	Gross weight	Gross weight	Gross weight	Nickel content	Gross weight	Nickel content
North America: Canada	r 110,742	104,433	13,445	7,700	23,747	17,606	17,898	13,581
Europe:								
France	55	-----	125	-----	-----	-----	-----	-----
Germany, West	(3)	-----	r 30	-----	-----	-----	10	3
Netherlands	26	21	-----	-----	-----	-----	-----	-----
Norway	r 21,417	7,862	-----	-----	-----	-----	-----	-----
Sweden	-----	-----	-----	10	-----	-----	-----	-----
United Kingdom	r 293	455	-----	1	-----	-----	1	(4)
Africa: South Africa, Republic of	r 25	36	-----	-----	310	225	2,491	1,322
Asia	1	-----	(4)	-----	-----	-----	-----	-----
Oceania	-----	29	-----	-----	-----	-----	-----	-----
Grand total	r 132,559	112,836	r 13,600	7,711	24,057	17,831	20,400	14,906

r Revised.

[1] Ore and matte, 1965; Colombia 81 short tons gross weight, 1 short ton nickel content; 1966, Australia, less than ½ unit.

[2] Nickel-containing material in powder, slurry, or any form, derived from ore by chemical, physical, or any other means, and requiring further processing to recover nickel or other metals.

[3] Revised to none.

[4] Less than ½ unit.

Table 11.—World production of nickel by countries [1]
(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada [3]	232,242	217,030	228,496	[r] 267,308	242,788
Cuba:					
Content of oxide [e]	16,222	[r] 16,100	[r] 16,200	[r] 20,200	20,300
Estimated content of sulfide	2,080	[r] 5,700	[r] 8,500	[r] 9,900	9,900
United States:					
Byproduct of copper refining	648	707	949	844	1,006
Nickel recovered from domestic ore	10,569	10,725	11,236	12,666	12,231
South America: Brazil (content of ferronickel)	[r] 265	[r] 1,135	[e] 1,100	[r] 1,228	[e] 1,200
Europe:					
Finland:					
Content of nickel sulfate	179	172	162	180	[e] 175
Content of concentrates	2,715	3,230	3,494	3,252	[e] 3,300
Poland (content of ore)	1,458	1,218	[r] 1,328	[r] 1,214	[e] 1,400
U.S.S.R. (content of ore) [e]	90,000	90,000	90,000	95,000	100,000
Africa:					
Morocco (content of cobalt ore) [e]	316	302	[r] 370	[r] 397	430
Rhodesia, Southern (content of ore)	86	131	[r] 173	[e] 770	[e] 770
South Africa, Republic of (content of matte and refined nickel) [e]	2,700	2,700	2,700	[r] 3,300	6,000
Asia:					
Burma (content of speiss)	182	112	[r] 78	[e] [r] 55	[e] 75
Indonesia (content of ore)	491	1,764	1,874	[r] 3,086	[e] 4,400
Korea, South (content of ore)	29	29	20	[r] 1	-----
Oceania: New Caledonia (recoverable) [4]	28,775	37,920	[r] 52,235	[e] 57,400	[e] 66,900
World total [e]	394,000	[r] 392,000	423,000	[r] 481,000	475,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Nickel is also produced in Albania and East Germany but production data are not available; estimates for these countries are included in the total.

[2] Compiled from data available May 1967.

[3] Comprises refined nickel and nickel in oxide produced and recoverable nickel in matte exported.

[4] Comprises nickel-cobalt content of matte and ferronickel produced in New Caledonia plus estimate of recoverable nickel in ore exported. Mine production (nickel content of ore) was as follows: 1962, 37,234 tons; 1963, 49,072 tons; 1964, 66,940 tons; 1965, 66,100 tons; and 1966 estimated 71,700 tons.

Platinum—Group Metals

Table 1.—Salient platinum-group metals statistics

(Troy ounces)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production [1]	23,046	28,742	49,750	40,487	35,026	51,423
Value	$1,364,966	$1,591,463	$2,442,840	$2,395,877	$2,041,102	$3,106,993
Refinery production:						
New metal	55,088	54,775	80,208	71,090	61,723	73,615
Secondary metal	93,572	132,102	117,099	120,147	108,525	103,321
Imports for consumption	785,577	720,352	1,003,608	882,705	r 1,172,643	1,435,017
Exports (except manufacturers)	49,224	60,591	63,012	146,306	103,097	205,456
Stocks Dec. 31: Refiner, importer, dealer	513,532	598,102	699,575	767,264	926,373	1,129,604
Consumption	785,712	866,459	1,003,194	1,117,680	1,186,701	1,675,795
World: Production	1,179,000	1,625,000	1,540,000	2,545,000	2,970,000	2,950,000

r Revised.

[1] From crude platinum placers and byproduct platinum-group metals recovered largely from domestic gold and copper ores.

Table 2.—New platinum-group metals recovered by refiners in the United States by sources

(Troy ounces)

Year and source	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1957–61 (average)	38,212	11,219	2,423	801	1,533	900	55,088
1962	36,462	16,144	905	100	1,016	148	54,775
1963	40,290	32,799	2,270	189	3,421	1,239	80,208
1964	30,539	27,301	3,981	515	6,274	2,480	71,090
1965:							
From domestic sources:							
Crude platinum; gold and copper refining	11,376	22,500	1,414	315	2,156	400	38,161
From foreign crude platinum	13,871	3,839	1,214	884	2,702	1,052	23,562
Total	25,247	26,339	2,628	1,199	4,858	1,452	61,723
1966:							
From domestic sources:							
Crude platinum; gold and copper refining	18,103	29,907	1,513	219	2,361	558	52,661
From foreign crude platinum	11,945	1,460	2,466	1,314	3,289	480	20,954
Total	30,048	31,367	3,979	1,533	5,650	1,038	73,615

Table 3.—Secondary platinum-group metals recovered in the United States

(Troy ounces)

Year	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1957–61 (average)	46,894	41,274	985	276	2,815	1,328	93,572
1962	71,817	56,273	767	99	2,570	576	132,102
1963	54,084	59,993	440	273	1,990	319	117,099
1964	66,043	49,879	764	928	2,338	195	120,147
1965	53,562	50,025	960	763	2,590	625	108,525
1966	49,563	50,009	402	728	2,434	185	103,321

Table 4.—Platinum-group metals sold to consuming industries in the United States

(Troy ounces)

Year and industry	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1957–61 (average)	316,565	434,545	6,497	804	22,127	5,174	785,712
1962	304,272	519,860	9,251	1,125	26,063	5,888	866,459
1963	424,344	526,527	9,832	1,056	37,068	4,367	1,003,194
1964	451,350	591,432	9,652	1,379	55,426	8,441	1,117,680
1965:							
Chemical	131,599	156,796	3,006	1,479	12,499	3,103	308,482
Petroleum	81,200	37,001	6	75	369	----	118,651
Glass	19,846	1,402	8	----	10,275	----	31,531
Electrical	106,808	430,384	3,483	10	7,924	2,647	551,256
Dental and medical	26,511	50,192	294	32	124	142	77,295
Jewelry and decorative	35,387	18,203	2,639	----	7,498	860	64,587
Miscellaneous	10,084	23,107	118	38	221	1,331	34,899
Total	411,435	717,085	9,554	1,634	38,910	8,083	1,186,701
1966:							
Chemical	191,429	221,559	3,746	1,483	14,210	3,048	435,475
Petroleum	201,955	28,760	1,251	----	517	202	232,685
Glass	90,556	1,011	1	----	34,491	----	126,059
Electrical	117,156	531,545	1,722	22	9,216	1,147	660,808
Dental and medical	24,296	67,102	832	252	335	1,336	94,153
Jewelry and decorative	40,549	32,215	2,628	----	9,100	433	84,925
Miscellaneous	24,846	12,020	813	79	1,819	2,113	41,690
Total	690,787	894,212	10,993	1,836	69,688	8,279	1,675,795

Table 5.—Refiner, importer, and dealer stocks of platinum-group metals in the United States, December 31

(Troy ounces)

Year	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1962	256,755	285,173	13,871	2,762	30,692	8,849	598,102
1963	320,601	315,756	18,907	1,531	32,900	9,880	699,575
1964	378,896	317,691	20,022	1,936	38,388	10,331	767,264
1965	422,804	427,450	18,374	1,502	44,531	11,712	926,373
1966	459,669	574,651	20,677	2,559	57,737	14,311	1,129,604

Table 6.—U.S. imports for consumption of platinum-group metals

Year	Troy ounces	Value (thousands)	Year	Troy ounces	Value (thousands)
1957–61 (average)	785,577	$33,728	1964	882,705	$50,450
1962	720,352	32,699	1965 [r]	1,172,643	68,953
1963	1,003,608	50,376	1966	1,435,017	83,481

[r] Revised.

Table 7.—U.S. imports for consumption of platinum-group metals (unmanufactured), by countries[1]

(Troy ounces)

Year and country	Unrefined material		Refined metals					
	Primary	Scrap	Platinum	Palladium	Iridium	Rhodium	Ruthenium	Total
1965:								
North America:								
Canada	(r)	---	r 62,543	119,006	5,600	6,600	5,360	r 199,109
Mexico	r 33	---	---	727	---	200	---	r 960
Netherlands Antilles	r 601	---	(5)	---	---	---	---	r 601
Panama	r 460	---	(5)	---	---	---	---	460
South America:								
Colombia	19,621	4	---	---	---	---	---	19,625
Venezuela	673	---	---	---	---	---	---	673
Europe:								
Belgium-Luxembourg	r 277	---	r 359	---	---	478	---	1,114
France	103	---	---	1,072	37	---	---	1,212
Germany, West	r 1,500	---	r 1,457	56,495	---	40	---	[2] 59,517
Ireland	---	---	582	18	---	---	---	600
Netherlands	---	---	317	10,599	---	820	---	11,736
Norway	r 3,000	---	r 3,630	7,699	---	---	---	14,329
Switzerland	---	---	8,552	32,156	---	---	---	40,708
U.S.S.R.	r 1,830	---	r 44,102	[3] 443,555	2,743	18,169	---	r 510,399
United Kingdom	r 29,598	---	r 195,288	63,534	2,459	13,448	2,838	[2] 311,365
Africa: South Africa, Republic of	---	---	3	---	---	---	---	3
Asia:								
Japan	---	---	50	---	---	---	---	[2] 82
Taiwan	---	---	---	20	---	---	---	20
Oceania: Australia	---	---	117	---	---	13	---	130
Total:								
Troy ounces	r 57,696	4	r 317,000	734,881	10,839	39,768	8,198	1,172,643
Value (thousands)	r $6,112	$(4)	r $32,448	$22,381	$943	$6,762	$307	$69,269

Table 7.—U.S. imports for consumption of platinum-group metals (unmanufactured), by countries[1]—Continued

(Troy ounces)

Year and country	Unrefined material		Refined metals					
	Primary	Scrap	Platinum	Palladium	Iridium	Rhodium	Ruthenium	Total
1966:								
North America:								
Canada	697	---	1,779	130,634	3,410	22,200	4,800	[2] 163,884
Mexico	---	---	---	133	---	---	---	133
Panama	354	---	---	---	---	---	---	354
South America:								
Argentina	729	---	---	---	---	---	---	729
Colombia	16,147	---	1,633	---	---	---	---	17,780
Europe:								
Belgium-Luxembourg	37	---	1,003	1,482	---	---	---	2,522
France	---	---	---	2,539	---	688	---	3,227
Germany, West	498	---	1,304	180,527	525	3,020	547	[2] 186,577
Gibraltar	---	---	---	1,860	---	---	---	1,860
Ireland	---	26	---	---	---	---	---	26
Italy	---	825	---	---	---	---	---	825
Netherlands	---	---	999	12,635	---	198	---	13,832
Norway	3,350	---	3,175	5,150	---	---	---	11,675
Sweden	321	---	---	970	---	414	---	1,705
Switzerland	6,458	---	4,633	115,924	---	---	---	127,015
U.S.S.R.	4,479	---	7,676	438,292	---	18,012	---	468,459
United Kingdom	52,770	---	250,280	93,808	4,226	21,105	4,817	[2] 432,139
Africa:								
Ethiopia	860	---	---	---	---	---	---	860
South Africa, Republic of	---	---	---	---	---	160	---	160
Asia: Japan	---	---	---	1,183	---	---	---	1,183
Oceania: Australia	---	---	---	---	---	64	---	[2] 72
Total:								
Troy ounces	86,700	851	272,482	985,137	8,161	65,861	10,164	1,435,017
Value (thousands)	$9,498	$86	$31,655	$28,010	$1,130	$11,984	$385	$83,481

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[r] Revised.

[1] Certain items reported by the Bureau of the Census as "scrap" have been reclassified by the Bureau of Mines and included with "plantinum refined metal" in this table.

[2] Includes in 1965, 3,988 ounces ($228,209) of osmiridium from United Kingdom; in 1966, 4,902 ounces ($439,458) from United Kingdom and 8 ounces ($1,175) from Australia; and in 1965, 212 ounces ($64,524) of osmium from United Kingdom, 25 ounces ($11,000) West Germany, and 32 ounces ($12,121) from Japan; in 1966, 364 ounces ($151,553) of osmium from Canada, 231 ounces ($80,818) from United Kingdom; and 156 ounces ($59,488 from West Germany.

[3] Includes 33,913 ounces ($1,085,224) reported as platinum and believed to be palladium.

[4] Less than ½ unit.

[5] Revised to none.

Table 8.—U.S. exports of platinum-group metals, by countries

Year and destination	Platinum (ore, concentrates, ingots, bars, sheets, wire, sponge, and other forms, including scrap)		Palladium, rhodium, iridium, osmiridium, ruthenium, and osmium (metal and alloys including scrap)		Platinum group manufactures, except jewelry (value thousands)
	Troy ounces	Value (thousands)	Troy ounces	Value (thousands)	
1957–61 (average)	32,343	$1,802	16,881	$493	$2,466
1962	49,651	1,514	10,940	459	4,106
1963	51,236	3,650	11,776	507	2,256
1964	125,139	9,842	21,167	1,363	5,083
1965:					
North America:					
Canada	927	152	1,218	117	1,738
Mexico	419	74	2,314	159	146
Other	38	4	98	16	113
South America:					
Chile	3,452	339	34	1	2
Colombia	415	44	11	2	5
Venezuela	82	5	44	4	3
Other	14	4	105	16	25
Europe:					
Belgium-Luxembourg	737	116	3,428	176	15
France	375	56	1,367	198	130
Germany, West	15,049	2,177	13,349	1,905	2
Italy	2,492	379	2,324	270	8
Netherlands	1,480	259	358	57	2
Switzerland	1,549	230	176	29	29
United Kingdom	29,174	3,431	1,969	262	111
Other	511	7	59	12	14
Africa	---	---	11	2	17
Asia:					
India	3	(1)	12	2	2
Israel	10	1	65	4	4
Japan	16,056	2,535	3,093	500	101
Philippines	25	1	67	14	7
Other	117	24	29	5	11
Oceania	---	---	41	7	30
Total	72,925	9,838	30,172	3,758	2,515
1966:					
North America:					
Canada	3,928	435	3,078	262	2,034
Mexico	855	83	2,153	200	98
Other	14	5	17	(1)	32
South America:					
Brazil	2,218	434	460	71	---
Chile	48	2	30	2	2
Colombia	181	29	---	---	42
Venezuela	66	11	729	10	9
Other	---	---	152	22	10
Europe:					
Belgium-Luxembourg	6,575	729	3,463	146	646
France	6,810	809	3,498	384	337
Germany, West	21,222	2,670	25,983	2,184	46
Italy	2,646	356	8,530	463	2
Netherlands	8,321	996	14,229	1,065	113
Sweden	261	5	19,036	2	27
Switzerland	118	70	2,695	219	3
United Kingdom	39,552	4,225	1,669	197	97
Other	44	18	150	29	5
Africa	4	2	870	7	20
Asia:					
Hong Kong	345	127	---	---	(1)
India	15	4	14	3	80
Israel	10	2	52	5	---
Japan	8,144	2,401	16,199	1,430	136
Philippines	12	(1)	---	---	2
Other	2	1	42	4	10
Oceania	640	(1)	376	6	43
Total	102,031	13,414	103,425	6,711	3,794

[1] Less than ½ unit.

Table 9.—World production of platinum-group metals

(Troy ounces)

Country	1962	1963	1964	1965	1966 [p] [1]
North America [2]:					
Canada:					
Platinum and platinum-group metals	470,787	357,651	376,238	[r] 463,127	385,741
United States:					
Placer platinum and from domestic gold and copper refining	28,742	49,750	40,487	35,026	51,432
South America [2]:					
Colombia:					
Placer platinum (exports)	14,100	22,983	20,647	[r] 11,141	[3] 17,780
Europe:					
U.S.S.R.:					
Placer platinum and from platinum - nickel - copper ores [e]	800,000	800,000	1,500,000	1,700,000	1,700,000
Africa:					
Congo, Republic of the (Kinshasa):					
Palladium from refineries	---	3	---	---	---
Platinum from refineries	---	4	1	---	---
Ethiopia:					
Placer platinum	180	[e] 180	[e] 180	353	[e] 350
South Africa, Republic of:					
Platinum-group metals from platinum ores [e]	300,000	300,000	600,000	750,000	780,000
Osmiridium from gold ores [e]	[r] 5,600	[r] 5,200	[r] 4,100	[r] 3,800	4,000
Asia:					
Japan:					
Palladium from refineries	1,372	1,326	1,875	[r] 2,952	5,495
Platinum from refineries	1,872	1,714	2,199	[r] 2,466	2,733
Philippines:					
Platinum from refining nickel-platinum concentrates	172	---	---	---	---
Palladium from refining nickel-platinum concentrates	141	---	---	---	---
Oceania:					
Australia:					
Placer platinum	2	4	---	---	---
New Guinea [4]	5	5	2	[r] 5	([5])
World total [e]	1,625,000	1,540,000	[r] 2,545,000	[r] 2,970,000	2,950,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available June 1967.

[2] U.S. imports include platinum from other Western Hemisphere countries which are not listed as producers.

[3] U.S. imports. (Data are consistently higher than Colombian export data.)

[4] Year ended June 30.

[5] Less than ½ unit.

Rare-Earths

Table 1.—World production of monazite concentrates, by countries

(Short tons)

Country [1]	1962	1963	1964	1965	1966 [p] [2]
Australia	912	2,231	[r] 2,219	[r] 2,744	2,499
Brazil	[r] 4,276	[r] 2,448	[r] 733	658	822
Ceylon	---	---	25	40	40
Congo (Kinshasa)	---	---	---	22	NA
India	[3] 3,233	[3] 2,678	NA	[e] [r] 2,800	NA
Indonesia	153	169	154	28	NA
Korea, South [4]	755	---	---	---	13
Malagasy Republic	702	678	1,063	1,196	937
Malaysia (exports)	702	991	340	777	970
Nigeria [3]	10	[r] 13	[r] 11	9	8
South Africa, Republic of	5,326	2,300	---	---	---

[p] Preliminary. [e] Estimate. [r] Revised. NA Not available.

[1] United States production data withheld to avoid disclosing individual company confidential data.

[2] Compiled mostly from data available May 1967.

[3] Year ended March 31 of year following that stated.

[4] Reported as concentrates containing 45–55 percent of R_2O_3; also reported as 30 percent Ce, which may be high.

Selenium

Table 1.—Salient selenium statistics

(Thousand pounds of contained selenium)

	1962	1963	1964	1965	1966
United States:					
Production	999	928	929	540	620
Shipments to consumers	741	679	646	824	845
Imports for consumption	159	339	293	251	286
Stocks, Dec. 31, producers	773	1,022	1,305	1,021	797
Price per pound, commercial grade	$5.75–$6.25	$4.50–$5.75	$4.50–$6.00	$4.50–$6.00	$4.50–$6.00
World: Production	2,091	2,015	2,163	1,789	1,951

Table 2.—Free world production of selenium by countries

(Pounds)

Country	1962	1963	1964	1965	1966 [p] [1]
Australia [e]	3,500	3,500	3,500	[r] 5,250	4,400
Belgium-Luxembourg (exports)	29,542	54,013	87,082	93,034	91,270
Canada	487,066	468,772	465,746	[r] 512,077	521,163
Finland	11,797	15,417	14,500	12,577	11,973
Japan	309,314	313,494	325,926	[r] 348,038	423,391
Mexico	[r] 2,458	[r] 5,463	9,345	[r] 8,120	24,251
Peru	18,382	19,790	16,797	18,964	13,131
Sweden	154,322	156,527	[r] 180,777	[r] 176,209	[2] 165,345
United States	999,000	928,000	929,000	540,000	620,000
Yugoslavia	3,986	4,120	8,439	[r] 17,441	[e] 18,000
Zambia [3]	71,453	[r] 45,962	[r] 121,701	[r] 57,573	[e] 58,000
Free world total	[r] 2,091,000	[r] 2,015,000	[r] 2,163,000	[r] 1,789,000	1,951,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available May 1967.

[2] Exports.

[3] Contained in copper slimes exported for treatment.

Silicon

Table 1.—Production, shipments, and stocks of silvery pig iron, ferrosilicon, and silicon metal in 1966 [1]

((Short tons, gross weight)

Alloy		Producers stocks as of Dec. 31, 1965	Production	Shipments	Producers stocks as of Dec. 31, 1966
Type	Silicon content (percent)				
Silvery pig iron	5–13	20,103	73,854	66,994	26,963
Do	14–20	13,527	199,706	194,819	18,414
Ferrosilicon	21–55	[r] 39,628	357,875	369,447	28,056
Do	56–70	5,307	39,263	41,780	2,790
Do	71–80	7,969	75,515	75,176	8,308
Do	81–89	1,841	21,673	21,297	2,217
Do	90–95	197	783	718	262
Silicon metal	96–99	4,728	82,489	84,406	2,811
Ferrosilicon briquets	40–50	2,430	63,173	63,830	1,773
Miscellaneous silicon alloys	-----	2,570	19,784	18,788	3,566

[r] Revised.

[1] Excludes ferrosilicon used to make other silicon alloys.

Table 2.—Producers of silicon alloys and/or silicon metal in the United States in 1966

Producer	Plant Location	Product
Chromium Mining and Smelting Corp	Woodstock, Tenn	FeSi.
Hanna Furnace Corp	Buffalo, N.Y	Silvery iron.
Hanna Nickel Smelting Co	Riddle, Oreg	FeSi.
Interlake Steel Corp	Beverly, Ohio	FeSi, silvery iron, Si.
Jackson Iron & Steel Co	Jackson, Ohio	Silvery iron.
Keokuk Electro-Metals Co., Division of Vanadium Corp. of America.	Keokuk, Iowa	FeSi, silvery iron.
Do	Wenatchee, Wash	FeSi, Si.
National Metallurgical Corp., subsidiary of Apex Smelting Co	Springfield, Oreg	Si.
Ohio Ferro-Alloys Corp	Brilliant, Ohio	FeSi.
Do	Philo, Ohio	FeSi.
Do	Powhatan Point, Ohio	FeSi, Si.
Do	Tacoma, Wash	FeSi, Si.
Pittsburgh Metallurgical Co	Calvert City, Ky	FeSi, silvery iron.
Do	Charleston, S.C	FeSi silvery iron.
Do	Niagara Falls, N.Y	FeSi, silvery iron.
Reynolds Metal Co	Sheffield, Ala	Si.
Union Carbide Corp., Mining & Metals Division	Alloy, W. Va	FeSi, Si.
Do	Ashtabula, Ohio	FeSi.
Do	Marietta, Ohio	FeSi.
Do	Portland, Oreg	FeSi.
Do	Rockwood, Tenn	FeSi.
Do	Sheffield, Ala	FeSi.
Vanadium Corporation of America	Graham, W. Va	FeSi.
Do	Vancoram, Ohio	FeSi
Woodward Iron Co	Woodward, Ala	FeSi.

Table 3.—Consumption by major end uses, and stocks, of silicon alloys and metal in the United States in 1966

(Short tons)

Alloy		Stainless steels	Other alloy steels [1]	Carbon steels	Tool steels	Steel mill rolls	Gray and malleable castings
Type	Silicon content (percent)						
Silvery pig iron	5–13	------	338	382	119	797	69,284
Do	14–20	33	6,470	19,151	------	179	216,303
Ferrosilicon	[3] 21–55	9,687	80,628	91,467	2,372	1,186	105,189
Do	56–70	360	5,090	18,924	26	------	2,936
Do	71–80	10,847	17,493	9,514	353	362	13,061
Do	81–89	182	593	1,952	------	74	6,595
Do	90–95	17	1,024	421	------	52	358
Silicon metal	96–99	82	2,493	102	14	30	183
Ferrosilicon briquets	40–50	------	154	585	------	48	37,310
Miscellaneous silicon alloys [6]	------	324	3,555	5,353	65	840	25,401
Total	------	21,532	117,838	147,851	2,949	3,568	476,620

Type	Silicon content (percent)	Aluminum base alloys	High temperature alloys	Other nonferrous alloys	Miscellaneous	Total consumption	Stocks Dec. 31, 1966
Silvery pig iron	5–13	------	125	46	2,292	73,383	5,660
Do	14–20	------	------	17	[2] 3,547	245,700	27,217
Ferrosilicon	[3] 21–55	52	874	3,545	[4] 24,328	319,328	24,660
Do	56–70	------	5	------	[4] 1,558	28,899	1,681
Do	71–80	------	52	78	17,902	69,662	6,360
Do	81–89	------	------	20	231	9,647	1,195
Do	90–95	3,045	30	------	------	4,947	669
Silicon metal	96–99	40,959	545	985	[5] 12,697	58,090	4,746
Ferrosilicon briquets	40–50	------	------	------	232	38,329	5,021
Miscellaneous silicon alloys [6]	------	120	259	165	7,919	44,001	4,701
Total	------	44,176	1,890	4,856	70,706	891,986	81,910

[1] Includes quantities of carbon steels because some firms failed to specify individual uses.
[2] Used mainly in high-silicon iron, and to beneficiate ores.
[3] Mainly from 40 to 55 percent silicon.
[4] Used mainly in producing ferronickel.
[5] Used mainly in producing silicones and other chemical compounds.
[6] Includes calcium-silicon, calcium-manganese-silicon, silicon-manganese-zirconium, Ferrocarbo (including briquets), Alsifer, and other miscellaneous silicon alloys.

Table 4.—U.S. exports of ferrosilicon

Year	Short tons	Value (thousands)
1957–61 (average)	11,130	$1,769
1962	4,101	1,349
1963	3,130	948
1964	5,785	1,232
1965	4,585	1,755
1966	5,812	2,004

Table 5.—U.S. imports for consumption of ferrosilicon and silicon metal, by grades and countries

	1964			1965			1966		
	Short tons		Value (thousands)	Short tons		Value (thousands)	Short tons		Value (thousands)
	Gross weight	Silicon content		Gross weight	Silicon content		Gross weight	Silicon content	
Ferrosilicon:									
8 percent and less than 60 percent silicon:									
Canada	10,978	1,672	$570	12,281	2,022	$744	14,121	2,469	$811
France	---	---	---	11	6	3	483	259	149
Germany, West	358	53	60	523	78	87	949	432	258
Japan	97	45	30	1,203	556	397	2,321	1,089	631
Outer Mongolia	9	1	(1)	---	---	---	---	---	---
Total	11,442	1,771	660	14,018	2,662	1,231	17,874	4,249	1,849
60 percent and not more than 80 percent silicon:									
Canada	504	343	84	---	---	---	---	---	---
France	40	31	6	1,379	1,054	220	3,867	2,573	1,011
Germany, West	---	---	---	---	---	---	2,416	1,480	797
India	1	1	(1)	---	---	---	---	---	---
Norway	1,125	857	146	916	697	125	5,013	3,852	743
South Africa, Republic of	---	---	---	112	87	15	901	697	133
Total	1,670	1,232	236	2,407	1,838	360	12,197	8,602	2,684
Over 80 percent but not over 90 percent silicon:									
Canada	---	---	---	---	---	---	55	46	15
Italy	49	42	12	68	58	15	224	192	53
Norway	---	---	---	---	---	---	55	44	9
Total	49	42	12	68	58	15	334	282	77
Grand total	13,161	3,045	908	16,493	4,558	1,606	30,405	13,133	4,610
Silicon metal:									
Canada	---	---	---	---	---	---	1,439	1,337	128
Germany, West	---	---	---	(1)	(1)	(1)	---	---	---
Italy	---	---	---	---	---	---	(1)	(1)	1
Norway	---	---	---	---	---	---	86	79	25
Sweden	---	---	---	---	---	---	55	54	15
Total	---	---	---	(1)	(1)	(1)	1,580	1,470	169

[1] Less than ½ unit.

Silver

Table 1.—Salient silver statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production thousand troy ounces	33,806	36,798	35,243	36,334	39,806	43,669
Value thousands	$30,731	$39,929	$45,076	$46,980	$51,469	$56,463
Ore (dry and siliceous) produced:						
Gold ore thousand short tons	2,277	2,159	2,460	2,631	3,113	2,580
Gold-silver ore do	191	353	223	224	205	248
Silver ore do	631	557	587	644	902	1,069
Percentage derived from:						
Dry and siliceous ores	39	33	33	32	35	33
Base-metal ores	61	67	67	68	65	67
Refinery production thousand troy ounces	34,044	36,345	35,000	37,000	39,000	48,358
Imports general[1] do	110,417	76,359	59,062	51,674	54,709	63,032
Exports[1] do	17,727	13,057	31,485	109,395	39,665	85,538
Stocks Dec. 31: Treasury million troy ounces	2,007	1,767	1,583	1,214	796	594
Consumption—industry and the arts[2] thousand troy ounces	97,880	110,400	110,000	123,000	137,000	183,696
Coinage do	46,700	77,368	111,493	203,000	320,321	53,852
Price[3] per troy ounce	$0.908+	$1.085+	$1.279+	$1.293+	$1.293+	$1.293+
World:						
Production thousand troy ounces	234,140	245,800	249,700	246,600	254,200	253,100
Consumption[4]—industry and the arts thousand troy ounces	216,020	247,800	257,200	290,900	333,600	390,200
Coinage do	98,220	127,600	167,000	264,500	374,721	107,652

[1] Excludes coinage.
[2] Source: U.S. Bureau of the Mint—1957–1965; U.S.B.M. 1966.
[3] Treasury buying price for newly mined silver, 1957–1960; average New York price, 1961–66.
[4] Free world only; source: Handy & Harman, 1957–1965; H & H and USBM, 1966.

Table 2.—Mine production of recoverable silver in the United States, by months

(Thousand troy ounces)

Month	1965	1966
January	3,235	3,385
February	3,079	3,310
March	3,476	3,924
April	3,531	3,565
May	3,266	3,670
June	3,290	3,846
July	3,156	3,351
August	3,250	3,711
September	3,235	3,650
October	3,373	3,702
November	3,375	3,764
December	3,540	3,791
Total	39,806	43,669

Table 3.—Twenty-five leading silver-producing mines in the United States in 1966, in order of output

Rank	Mine	State	County	Operator	Source of silver
1	Sunshine	Idaho	Shoshone	Sunshine Mining Co	Silver ore.
2	Galena	do	do	American Smelting and Refining Co.	Do.
3	Lucky Friday	do	do	Hecla Mining Co	Lead ore.
4	Utah Copper	Utah	Salt Lake	Kennecott Copper Corp	Copper, gold-silver ores.
5	Burgin	do	Utah	do	Lead-zinc ore.
6	Berkeley Pit	Montana	Silver Bow	The Anaconda Co	Copper ore.
7	Butte Hill Copper Mines.	do	do	do	Do.
8	Bunker Hill	Idaho	Shoshone	The Bunker Hill Co	Lead-zinc ore.
9	Butte Hill Zinc Mines.	Montana	Silver Bow	The Anaconda Co	Zinc ore.
10	U. S. and Lark	Utah	Salt Lake	United States Smelting Refining and Mining Co	Lead-zinc, lead ores.
11	Copper Queen-Lavender Pit.	Arizona	Cochise	Phelps Dodge Corp	Copper ore.
12	Mission	do	Pima	American Smelting and Refining Co.	Do.
13	Crescent	Idaho	Shoshone	The Bunker Hill Co	Silver ore.
14	Idarado	Colorado	Ouray and San Miguel.	Idarado Mining Co	Copper-lead-zinc ore.
15	Silver Summit	Idaho	Shoshone	Hecla Mining Co	Silver ore.
16	Star-Morning	do	do	do	Lead-zinc ore.
17	Mayflower	Utah	Wasatch	do	Copper-lead-zinc ore.
18	Morenci	Arizona	Greenlee	Phelps Dodge Corp	Copper, gold-silver ores
19	Iron King	do	Yavapai	Shattuck Denn Mining Corp.	Lead-zinc ore.
20	Mineral Park	do	Mohave	Duval Corp	Copper ore.
21	Pima and Northeast.	do	Pima	Pima Mining Co	Do.
22	White Pine	Michigan	Ontonagon	White Pine Copper Co	Do.
23	New Cornelia	Arizona	Pima	Phelps Dodge Corp	Copper, gold-silver ores.
24	Pan American	Nevada	Lincoln	Grand Deposit Mining Co., and Combined Metals Reduction Co., joint venture.	Lead-zinc ore.
25	Magma	Arizona	Pinal	Magma Copper Co	Copper, gold-silver ores.

Table 4.—Production of silver in 1964–66 in the United States, by States and by source, 1966

(Troy ounces)

State	1964	1965	1966 by type of mine production							
			Placers	Dry ore	Copper ore	Lead and zinc ores	Complex base metal ores	Other sources [1]	Total	Refinery production [2]
Alaska	7,336	7,673	3,379	608	1,548	1,658	----------	----------	7,193	7,100
Arizona	5,810,510	6,095,285	(3)	[3] 79,198	5,595,644	9,532	597,740	56,582	6,338,696	6,414,400
California	171,621	196,787	3,555	15,528	32	104,725	8,631	57,518	189,989	182,400
Colorado	2,626,431	2,051,105	191	62,357	160,001	234,610	1,627,513	862	2,085,534	1,869,500
Idaho	16,483,495	18,456,809	5	13,350,551	3,238	3,910,412	2,142,106	370,473	19,776,785	18,950,000
Kentucky	1,673	1,931	----------	----------	----------	----------	----------	1,086	1,086	1,140
Michigan	349,195	457,851	----------	----------	483,000	----------	----------	----------	483,000	529,400
Missouri	----------	299,522	----------	----------	----------	----------	----------	----------	----------	50,180
Montana	5,289,959	5,207,031	15	124,122	3,553,060	1,545,164	13,717	83,707	5,319,785	5,000,000
Nevada	172,447	507,113	157	160,739	199,669	30,584	475,110	1,308	867,567	705,940
New Mexico	242,405	287,472	----------	46,999	69,912	75,907	49,538	264	242,620	300,000
New York	13,306	11,441	----------	----------	----------	----------	21,590	----------	21,590	55,000
Oklahoma	----------	(4)	----------	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Oregon	14,372	8,801	(5)	[5] 343	(5)	----------	----------	----------	343	1,970
Pennsylvania	(4)	(4)	----------	(4)	(4)	(4)	(4)	(4)	(4)	----------
South Dakota	132,981	128,971	----------	109,885	----------	----------	----------	----------	109,885	109,900
Tennessee	90,539	94,142	----------	----------	----------	----------	100,716	----------	100,716	97,200
Utah	4,551,960	5,635,570	----------	273,491	3,049,400	22,301	4,404,248	5,971	7,755,411	7,842,000
Washington [4]	375,603	358,477	----------	311,071	14,154	14,105	21,606	7,852	368,788	345,700
Wyoming	28	52	----------	----------	----------	----------	----------	----------	----------	30
Total	36,333,861	39,806,033	7,302	14,534,892	13,129,658	5,948,998	9,462,515	585,623	43,668,988	[7] 42,500,000
Percent	----------	----------	(6)	33	30	14	22	1	100	----------

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[1] Silver recovered from mill and smelter cleanup, slags, tailings, and as a byproduct of calcium fluorite, magnetite-pyrite, tungsten, and uranium ores.

[2] U.S. Bureau of the Mint.

[3] Placer and dry ore combined to avoid disclosing individual company confidential data.

[4] Pennsylvania and Washington combined in 1964; Oklahoma, Pennsylvania, and Washington combined in 1965; and Oklahoma, Pennsylvania, and Washington combined in 1966 to avoid disclosing individual company confidential data.

[5] Placer and copper ore combined with dry ore to avoid disclosing individual company confidential data.

[6] Less than 0.5 percent.

[7] Includes refinery production from: Illinois, 12,890; South Carolina, less than 1; Texas, 1,620; Wisconsin, 23,630.

Table 5.—Ore, old tailings, etc., yielding silver produced in the United States, and average recoverable content, in troy ounces of silver per ton in 1966

State	Gold		Gold-silver		Silver		Copper	
	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton
Arizona	21	1.571	140,041	0.183	25,920	3.382	99,053,068	.056
California	1,050	.316	2,650	3.827	554	9.146	197	.162
Colorado	2,084	.096	2,049	5.160	139,696	.369	8,787	18.209
Idaho	3,072	1.017	1	81.000	718,534	19.038	72,002	.045
Kentucky	-----	-----	-----	-----	-----	-----	-----	-----
Michigan	-----	-----	-----	-----	-----	-----	6,775,251	.071
Montana	1,114	.817	4,240	6.100	33,764	4.940	16,595,434	.214
Nevada	390,402	.030	-----	-----	26,020	5.761	10,110,334	.020
New Mexico	1	24.000	61,543	.637	2,202	3.550	8,175,453	.009
New York	-----	-----	-----	-----	-----	-----	-----	-----
South Dakota	2,002,239	.055	-----	-----	-----	-----	-----	-----
Tennessee	-----	-----	-----	-----	-----	-----	-----	-----
Utah	-----	-----	37,635	.846	121,800	1.984	33,592,716	.091
Other States[1]	179,609	1.735	-----	-----	13	30.308	202,963	.078
Total	2,579,592	.170	248,159	.577	1,068,503	13.468	174,586,205	.075

State	Lead		Zinc		Lead-zinc copper-zinc, and copper-lead-zinc		Total material	
	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton	Short tons	Average ounces of silver per ton
Arizona	1,906	3.207	1,623	2.965	340,100	1.758	99,562,679	[2] .064
California	8,947	11.705	-----	-----	9,087	.950	22,485	[3] 8,291
Colorado	4,085	8.904	231,514	.859	836,705	1.946	1,224,920	1.702
Idaho	297,347	13.060	96,239	.516	808,068	2.671	1,995,263	9.912
Kentucky	-----	-----	-----	-----	-----	-----	[4] 115,530	.009
Michigan	-----	-----	-----	-----	-----	-----	6,775,251	.071
Montana	17,637	3.731	991,200	1.507	1,376	10.215	17,644,765	.301
Nevada	6,357	4.637	1,234	1.173	311,042	1.527	10,845,389	.080
New Mexico	1,755	.452	376,907	.200	100,846	.491	8,718,707	.028
New York	-----	-----	-----	-----	638,734	.034	638,734	.034
South Dakota	-----	-----	-----	-----	-----	-----	2,002,239	.055
Tennessee	-----	-----	-----	-----	1,591,170	.063	1,591,170	.063
Utah	2,282	9.778	21,850	.205	657,450	6.700	34,433,733	[2] .225
Other States[1]	44	37.682	500,304	.028	594,659	.036	[5] 2,046,971	.180
Total	340,360	12.195	2,220,871	.829	5,889,237	1.610	187,617,836	.233

[1] Includes Alaska, Oklahoma, Oregon, Pennsylvania, and Washington.
[2] Includes byproduct silver recovered from uranium ore.
[3] Includes byproduct silver from tungsten ore.
[4] Calcium fluorite ore.
[5] Includes magnetite-pyrite ore from Pennsylvania.

Table 6.—Silver produced in the United States from ore and old tailings in 1966, by States and methods of recovery, in terms of recoverable metal

State	Total ore, old tailings, etc., treated (thousand short tons) [1]	Ore and old tailings to mills					Crude ore, old tailings, etc., to smelters	
			Recoverable in bullion		Concentrates smelted and recoverable metal			
		Thousand short tons	Amalgamation (troy ounces)	Cyanidation (troy ounces)	Concentrates (short tons)	Troy ounces	Thousand short tons	Troy ounces
Alaska	7	7	182	-----	95	1,974	(2)	1,658
Arizona	99,704	99,155	-----	-----	2,913,542	5,995,790	549	342,904
California	25	8	191	-----	3,347	69,296	17	116,947
Colorado	1,225	1,213	2,782	-----	156,653	1,869,534	12	213,027
Idaho	1,995	1,936	76	-----	228,045	19,742,192	59	34,512
Kentucky	167	167	-----	-----	13,417	1,086	-----	-----
Michigan	9,851	9,851	-----	-----	229,709	483,000	-----	-----
Montana	17,645	17,527	-----	-----	494,406	5,055,539	118	264,231
Nevada	16,223	16,129	310	7,699	321,625	715,568	94	143,833
New Mexico	8,779	8,655	-----	-----	392,051	196,233	124	46,387
New York	818	818	-----	-----	141,449	21,590	-----	-----
South Dakota	2,002	2,002	76,486	33,399	-----	-----	-----	-----
Tennessee	4,989	4,989	-----	-----	275,553	100,716	-----	-----
Utah	34,434	34,163	-----	-----	934,091	5,624,894	271	2,130,517
Other States [3]	3,147	3,145	6	-----	155,733	368,187	2	926
Total	201,011	199,765	80,033	41,098	6,259,716	40,245,599	1,246	3,294,942

[1] Includes some nonsilver-bearing ores not separable.
[2] Less than ½ unit.
[3] Includes Oklahoma, Oregon, Pennsylvania, and Washington.

Table 7.—Silver produced at amalgamation and cyanidation mills in the United States and percentage of silver recoverable from all sources

Year	Bullion and precipitates recoverable (troy ounces)		Silver from all sources (percent)			
	Amalgamation	Cyanidation	Amalgamation	Cyanidation	Smelting [1]	Placers
1957–61 (average)	91,112	376,043	0.27	1.11	98.50	0.12
1962	89,203	101,887	.24	.28	99.40	.08
1963	89,777	99,289	.26	.28	99.41	.05
1964	91,401	120,894	.25	.33	99.39	.03
1965	167,331	48,632	.42	.12	99.44	.02
1966	80,033	41,098	.18	.09	99.71	.02

[1] Crude ores and concentrates.

Table 8.—Silver produced at refineries in the United States, by source, 1966

(Troy ounces)

From concentrates and ores:	
Domestic	48,357,969
Foreign	31,079,530
Total	79,437,499
From old scrap	36,628,567
From new scrap	17,033,476
Total production	133,099,542

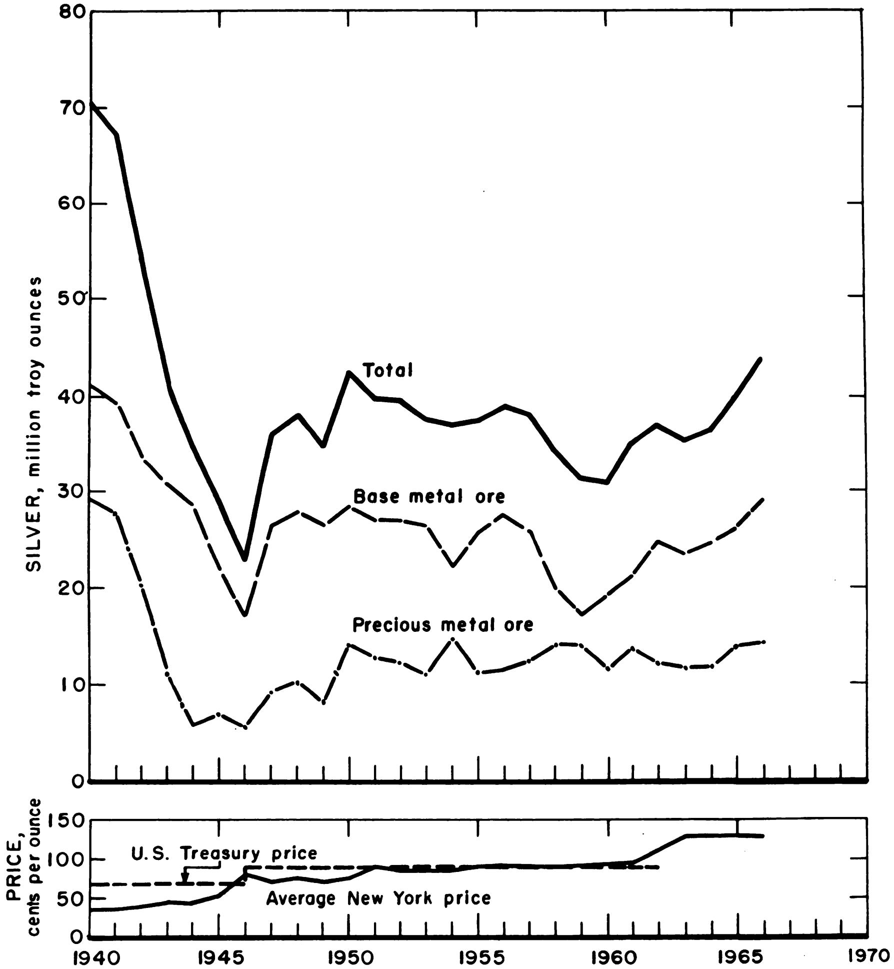

Figure 1.—Silver production in the United States and price per ounce.

Table 9.—U.S. consumption of silver by end use in 1966

(Thousand troy ounces)

Electroplated ware	21,486
Sterling ware	30,895
Jewelry	6,349
Photographic materials	48,435
Dental and medical supplies	2,457
Mirrors	2,946
Brazing alloys and solders	18,419
Electrical and electronic products:	
Batteries	12,517
Contacts and conductors	33,676
Rocket nozzles	700
Catalysts	2,683
Bearings	569
Miscellaneous [1]	2,564
Total net industrial consumption	183,696

[1] Includes silver-bearing copper, silver-bearing lead anodes, ceramic paints, etc.

Table 10.—U.S. monetary silver

(Million troy ounces)

	1962	1963	1964	1965	1966
In the Treasury:					
Silver bullion	1,691.5	1,557.7	r 1,208.0	r 793.8	591.9
Silver dollars	72.7	22.1	2.3	2.3	2.3
Subsidiary coin	2.4	2.7	r 3.4	(1)	(1)
Total	1,766.6	1,582.5	r 1,213.7	r 2 796.1	2 594.2
Outside the Treasury:					
Silver dollars	303.6	352.9	372.6	372.6	372.6
Subsidiary coin	1,270.3	1,365.2	1,563.4	3 1,883.0	3 1,911.0
Total	1,573.9	1,718.1	1,936.0	r 2,255.6	2,283.6
Grand total	3,340.5	3,300.6	r 3,149.7	r 3,051.7	r 2,877.8

r Revised.

[1] No breakdown is available between silver and nonsilver coins.

[2] Excludes silver in subsidiary coin.

[3] Estimated-Treasury data do not separate silver and nonsilver coins.

Table 11.—U.S. exports of silver in 1966, by countries

(Thousand troy ounces and thousand dollars)

Destination	Ore and base bullion		Refined bullion		United States coin value	Foreign coin value
	Troy ounces	Value	Troy ounces	Value		
North America:						
Bahamas	---	---	---	---	$38	---
Bermuda	---	---	---	---	82	---
Canada	131	$169	14,042	$18,130	39	$1,111
Jamaica	---	---	---	---	5	---
Mexico	---	---	---	---	---	---
Netherlands Antilles	---	---	---	---	6	---
Panama	---	---	---	---	---	1
Total	131	169	14,042	18,130	120	1,112
South America:						
Argentina	---	---	---	---	7	2
Brazil	(1)	(1)	65	84	---	---
Chile	---	---	---	---	3	---
Colombia	---	---	22	28	---	---
Total	(1)	(1)	87	112	10	2
Europe:						
Austria	---	---	494	636	---	65
Belgium-Luxembourg	31	41	655	847	---	(1)
France	---	---	7,129	9,210	---	---
Germany, West	153	197	4,378	5,684	69	4
Greece	---	---	---	---	(1)	---
Ireland	---	---	---	---	20	---
Italy	---	---	2,941	3,796	4	2,245
Netherlands	---	---	3,789	4,921	---	1
Norway	---	---	---	---	---	(1)
Sweden	16	20	---	---	---	2
Switzerland	---	---	11,685	15,086	79	29
United Kingdom	38	49	35,086	45,319	15	3
Total	238	307	66,157	85,499	187	2,349
Africa: Republic of South Africa	---	---	---	---	---	1
Asia:						
Hong Kong	---	---	---	---	2	(1)
Israel	---	---	---	---	7	---
Japan	---	---	4,883	6,316	---	---
Macao	---	---	---	---	---	1
Nansei and Nanpo Islands	---	---	---	---	1	---
Philippines	---	---	---	---	(1)	---
Taiwan	---	---	(1)	(1)	---	---
Total	---	---	4,883	6,316	10	1
Grand total	369	476	85,169	110,057	327	3,465

[1] Less than ½ unit.

Table 12.—U.S. imports of silver in 1966, by countries

(Thousand troy ounces and thousand dollars)

	Ore and base bullion		Refined bullion		Foreign coin value
	Troy ounces	Value	Troy ounces	Value	
North America:					
British Honduras	36	$47	---	---	---
Canada	10,925	13,609	10,367	$13,396	$114
Canal Zone	---	---	6	6	---
El Salvador	(1)	(1)	6	7	---
Guatemala	(1)	(1)	---	---	---
Honduras	3,400	4,280	266	343	5
Jamaica	---	---	---	---	1
Mexico	1,215	1,483	7,271	7,586	1,643
Nicaragua	92	107	57	68	---
Panama	(1)	(1)	---	---	(1)
Total	15,668	19,526	17,973	21,406	1,763
South America:					
Bolivia	2,124	2,447	---	---	---
Chile	2,747	3,204	---	---	---
Colombia	70	90	---	---	---
Ecuador	20	25	---	---	1
Peru	9,097	11,063	2,079	2,669	1
Venezuela	12	16	1	1	(1)
Total	14,070	16,845	2,080	2,670	2
Europe:					
Czechoslovakia	---	---	---	---	33
France	---	---	---	---	(1)
Germany, West	31	40	---	---	---
Ireland	74	87	---	---	(1)
Netherlands	19	19	---	---	1
Norway	3	4	---	---	---
Spain	---	---	---	---	(1)
Sweden	16	21	---	---	---
Switzerland	---	---	---	---	(1)
United Kingdom	14	12	1	1	4
Total	157	183	1	1	38
Africa:					
Egypt	---	---	---	---	2
Kenya	12	15	---	---	---
Liberia	---	---	---	---	378
South Africa, Republic of	3,426	3,806	6,979	8,499	(1)
Uganda	3	3	---	---	---
Total	3,441	3,824	6,979	8,499	380
Asia:					
Aden	---	---	---	---	3
Israel	1	1	---	---	(1)
Philippines	587	764	7	10	---
Taiwan	---	---	---	---	5
Total	588	765	7	10	8
Oceania: Australia	2,068	2,458	---	---	---
Grand total	35,992	43,601	27,040	32,586	2,191

[1] Less than ½ unit.

Table 13.—Value of silver imported into and exported from the United States

(Thousand dollars)

Year	Imports	Exports	Year	Imports	Exports
1957–61 (average)	$89,560	$16,375	1964	$64,394	$141,397
1962	72,721	13,375	1965	62,903	51,424
1963	67,281	40,022	1966	76,187	110,533

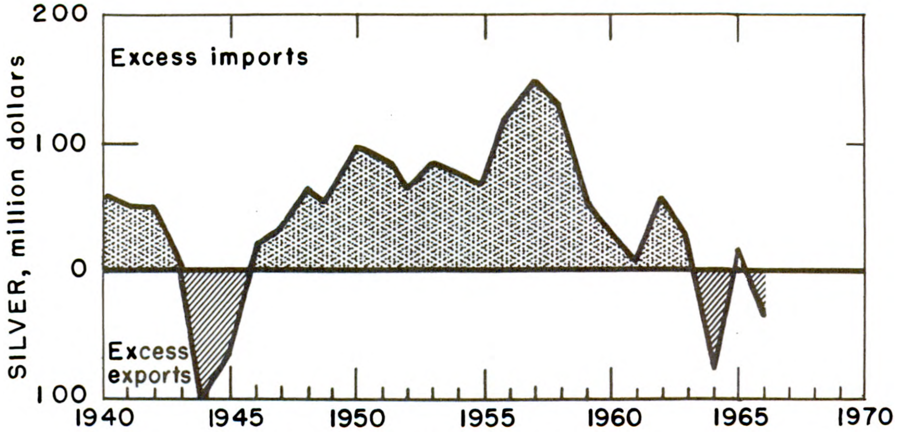

Figure 2.—Net imports or exports of silver.

Table 14.—World production of silver, by countries[1] [2]

(Troy ounces)

Country	1962	1963	1964	1965	1966 [p] [3]
North America:					
Canada	30,669,028	29,839,756	29,902,611	32,272,464	33,341,751
Central America and West Indies:					
Guatemala	370,595	64,173	[e] [r] 10,000	[e] [r] 18,000	[e] 3,000
Haiti	94,761	107,022	92,057	77,488	50,690
Honduras	3,179,653	[e] 3,164,000	3,220,371	3,670,659	3,734,290
Nicaragua	500,050	405,252	332,370	380,377	446,706
Mexico	41,249,402	[r] 42,760,423	41,716,263	40,332,077	41,983,529
United States [4]	36,799,632	35,241,503	36,333,861	39,806,033	43,668,988
South America:					
Argentina	2,086,101	[r] 1,943,191	[r] 1,943,127	[r] 2,285,853	[e] 2,000,000
Bolivia (exports)	3,759,193	4,869,037	[r] 4,810,973	[r] 4,114,427	5,124,828
Brazil	250,004	281,448	305,368	[e] 284,000	305,000
Chile	2,275,887	2,768,340	3,096,598	3,272,946	3,609,967
Colombia	131,599	106,279	130,353	[r] 113,451	106,757
Ecuador	127,739	121,784	117,126	69,966	76,710
Peru (recoverable)	[r] 33,147,769	[r] 35,203,230	[r] 34,419,459	[r] 36,470,355	32,841,243
Europe:					
Austria	68,481	68,803	73,947	76,519	93,237
Czechoslovakia [5]	[r] 2,400,000	[r] 2,400,000	[r] 2,400,000	[r] 2,400,000	2,400,000
Finland	380,504	579,967	607,906	582,186	520,103
France	898,977	730,111	969,441	[r] 1,401,226	[e] 1,400,000
Germany:					
East [5]	4,800,000	4,800,000	4,800,000	4,800,000	4,800,000
West	1,925,701	2,067,068	2,062,599	[r] 2,021,896	1,983,219
Greece	138,730	[r] 123,009	[r] 157,539	144,678	[e] 160,000
Hungary [5]	64,300	64,300	64,300	64,300	64,300
Italy	[r] 929,832	[r] 1,006,318	1,073,770	[r] 1,103,446	1,131,770
Poland [5]	128,600	128,600	128,600	128,600	128,600
Portugal	52,920	48,419	48,773	[r] 63,015	53,300
Rumania [5]	643,000	643,000	643,000	643,000	643,000
Spain	5,684,123	4,955,201	2,314,853	[e] 2,320,000	[e] 2,320,000
Sweden	3,367,276	[r] 3,580,178	[r] 3,122,255	[r] 4,955,201	[6] 4,495,000
U.S.S.R. [e]	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000
United Kingdom	514	-----	-----	-----	-----
Yugoslavia	3,750,931	3,791,923	4,036,879	4,148,057	3,651,424

See footnotes at end of table.

Table 14.—World production of silver, by countries [1,2]—Continued

(Troy ounces)

Country	1962	1963	1964	1965	1966 [p] [3]
Africa:					
Algeria [7]	275,000	255,000	295,000	295,000	335,000
Botswana	33	21	1	-----	-----
Congo (Kinshasa)	1,595,513	1,097,176	1,480,252	1,538,413	1,851,400
Ghana (exports)	4,443	4,827	-----	-----	-----
Kenya	50,160	52,422	47,702	21,247	19,003
Morocco	826,338	772,743	604,080	599,258	707,413
Rhodesia, Southern	83,540	83,742	88,463	[e] 95,470	[e] 95,000
South Africa, Republic of	2,549,206	2,736,868	2,916,660	3,131,580	3,134,093
South-West Africa [8]	[r] 1,300,516	[r] 1,142,864	[r] 1,436,136	[r] 1,540,851	1,516,539
Sudan	-----	-----	40	-----	-----
Swaziland	132	120	130	130	29
Tanzania (exports)	23,959	22,669	25,329	22,865	10,572
Tunisia	24,627	9,581	12,635	33,758	38,002
Uganda (exports)	38	9	-----	-----	-----
Zambia [9]	943,932	[r] 846,317	[r] 1,445,934	848,819	[e] 750,000
Asia:					
Burma	1,940,037	2,075,282	[r] 1,866,752	[r] 1,638,000	1,096,000
China, mainland [5]	800,000	800,000	800,000	800,000	800,000
India	138,698	128,314	[r] 152,234	168,308	39,223
Indonesia	248,236	279,840	[r] 252,930	298,777	220,779
Japan [4]	8,660,510	8,812,068	8,714,748	[r] 8,988,801	[e] 3,577,735
Korea:					
North [e]	640,000	640,000	640,000	640,000	640,000
South	[r] 412,905	[r] 443,987	[r] 404,468	[r] 434,000	499,269
Philippines	675,570	838,304	907,504	[r] 933,938	1,162,889
Taiwan	80,136	61,440	60,633	87,315	79,473
Oceania:					
Australia	17,553,691	19,641,925	[r] 18,426,990	[r] 17,312,716	18,278,000
Fiji	38,935	46,870	60,564	60,470	67,499
New Guinea (including Papua)	24,510	23,696	23,206	19,664	18,052
New Zealand	416	286	141	55	2
World total [e]	[r] 245,800,000	[r] 249,700,000	[r] 246,600,000	[r] 254,200,000	253,100,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] A negligible amount of silver is produced in Bulgaria, Mozambique, Panama, Thailand, and Turkey, for which countries no estimate has been included in the total.

[2] Data derived in part from the Yearbook of the American Bureau of Metal Statistics, the 53rd annual issue of Metal Statistics (Metallgesellschaft) Germany, and the 1965 annual issue of Minerals et Metaux (France).

[3] Compiled mostly from data available July 1967.

[4] Mine production.

[5] Estimate, according to the 53rd annual issue of Metallgesellschaft (Germany) except 1966 which is an extension of the previous year's estimate.

[6] Production reported by Bolidens Gruvaktiebolag Company Report.

[7] Estimated recoverable silver content of lead and zinc concentrates, according to the 1965 annual issue of Minerals et Metaux (France) except 1966 which is an extension of the previous year's estimate.

[8] Recoverable silver in Tsumeb Corporation Ltd. concentrates as reported by the corporation for year ended June 30 of year stated.

[9] Partially recovered from refinery sludges and blister copper.

Table 15.—Canada: Geographical distribution of silver production

(Troy ounces)

Province or territory	1965	1966 [p]
British Columbia	4,991,109	5,411,590
Alberta	19	14
Saskatchewan	640,995	596,530
Manitoba	707,024	533,763
Ontario	10,822,213	10,318,325
Quebec	5,154,403	5,780,130
New Brunswick	2,745,274	3,025,094
Nova Scotia	443,630	574,505
Newfoundland	1,086,978	1,070,943
Northwest Territories	1,064,824	1,952,634
Yukon Territory	4,615,995	4,078,223
Total	[r] 32,272,464	33,341,751

[p] Preliminary. [r] Revised.

Source: Dominion Bureau of Statistics.

Tellurium

Table 1.—Salient tellurium statistics

(Thousand pounds of contained tellurium)

	1962	1963	1964	1965	1966
United States:					
Production, primary and secondary	264	201	145	195	199
Shipments to consumers	233	134	122	146	215
Stocks, Dec. 31, producers	87	141	162	212	195
Imports	NA	2	6	18	18
Price per pound, commercial grade	$6	$6	$6	$6	$6
World: Production	396	318	277	321	340

NA Not available.

Table 2.—Free world production of tellurium by countries

(Pounds)

Country	1962	1963	1964	1965	1966 [p] [1]
Canada	58,725	76,842	77,782	[r] 69,794	78,900
Japan	23,168	13,256	7,573	20,126	22,701
Peru	50,472	26,634	46,757	36,045	39,654
United States	264,000	201,000	145,000	195,000	199,000
Free world total	396,400	317,700	277,100	[r] 321,000	340,300

[p] Preliminary. [r] Revised.

[1] Compiled mostly from data available May 1967.

Tin

Table 1.—Salient tin statistics

(Long tons)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Mine	12	W	W	65	47	97
Smelter	W	W	W	W	3,098	3,825
Secondary	22,902	21,040	22,332	23,508	25,076	25,349
Exports (exports and reexports)	1,180	435	1,625	4,041	2,829	2,847
Imports for consumption:						
Metal	44,063	41,401	43,283	32,132	40,816	41,699
Ore (tin content)	7,850	5,364	1,650	5,190	4,326	4,372
Consumption:						
Primary	50,016	54,602	55,209	58,586	58,550	60,209
Secondary	28,239	24,483	23,094	24,304	25,461	25,277
Price: Straits tin, in New York average cents per pound	101.59	114.61	116.64	157.72	178.17	164.02
World:						
Production:						
Mine	175,980	186,900	190,600	191,500	199,700	205,300
Smelter	176,380	189,400	192,200	189,500	196,800	201,000

W Withheld to avoid disclosing individual company confidential data.

Table 2.—Secondary tin recovered from scrap processed at detinning plants in the United States

		1965	1966
Tinplate scrap treated [1]	long tons	794,500	783,433
Tin recovered in the form of—			
Metal	do	2,725	2,614
Compounds (tin content)	do	675	680
Total [2]	do	3,400	3,294
Weight of tin compounds produced	do	1,212	1,288
Average quantity of tin recovered per long ton of tinplate scrap used	pounds	9.59	9.42
Average delivered cost of tinplate scrap	per long ton	$32.38	$28.75

[1] Tinplate clippings and old tin-coated containers have been combined to avoid disclosing individual company confidential data.

[2] Recovery from tinplate scrap treated only. In addition, detinners recovered 469 long tons (547 tons in 1965) of tin as metal and in compounds from tin-base scrap and residues in 1966.

Table 3.—Tin recovered from scrap processed in the United States, by form of recovery

(Long tons)

Form of recovery	1965	1966
Tin metal:		
At detinning plants	3,062	2,939
At other plants	339	299
Total	3,401	3,238
Bronze and brass:		
From copper-base scrap	11,504	11,836
From lead and tin-base scrap	440	461
Total	11,944	12,297
Solder	5,403	5,777
Type metal	1,964	1,714
Babbitt	1,053	1,121
Antimonial lead	304	318
Chemical compounds	924	826
Miscellaneous [1]	83	58
Total	9,731	9,814
Grand total	25,076	25,349
Value (thousands)	$99,983	$93,134

[1] Includes foil, cable lead and terne metal.

Table 4.—Shipments of metal cans

(Thousand base boxes)

Product	Total 1965	Total 1966	Change, percent
Beer	22,944	25,989	+13.3
Vegetables and vegetable juice	19,905	20,095	+1.0
Fruit and fruit juice	15,384	15,932	+3.6
Soft drinks	7,753	11,307	+45.8
Pet foods	5,145	5,485	+6.6
Coffee	4,464	4,295	−3.8
Evaporated and condensed milk	3,873	3,789	−2.2
Meat and poultry	3,561	3,805	+6.8
Fish and seafood	2,980	3,040	+2.0
Lard and shortening	1,908	1,842	−3.5
All other foods	14,642	15,281	+4.4

Source: U.S. Department of Commerce.

Table 5.—Stocks, receipts and consumption of new and old scrap and tin recovered in the United States in 1966

(Long tons)

Type of scrap and class of consumer	Gross weight of scrap						Tin recovered		
	Stocks Jan. 1	Receipts	Consumption			Stocks Dec. 31			
			New	Old	Total		New	Old	Total
Copper-base scrap:									
Secondary Smelters:									
Auto radiators (unsweated)	3,048	56,049	------	56,036	56,036	3,061	-----	2,410	2,410
Brass, composition or red	3,861	93,814	28,322	65,421	93,743	3,932	1,205	2,460	3,665
Brass, low (silicon bronze)	269	2,990	2,280	732	3,012	247	-----	4	4
Brass, yellow	5,702	61,967	8,223	52,781	61,004	6,665	19	494	513
Bronze	1,418	32,415	5,550	26,271	31,821	2,012	432	2,077	2,509
Low-grade scrap and residues	5,899	44,415	35,582	9,162	44,744	5,570	20	-----	20
Nickel silver	673	5,252	651	4,477	5,128	797	5	29	34
Railroad-car boxes	286	1,206	------	1,350	1,350	142	-----	63	63
Total	21,156	298,108	80,608	216,230	296,838	22,426	1,681	7,537	9,218
Brass mills:[1]									
Brass, low (silicon bronze)	2,480	32,221	32,221	------	32,221	2,666	1	-----	1
Brass, yellow	13,076	232,456	232,456	------	232,456	4,506	130	-----	130
Bronze	623	3,313	3,313	------	3,313	706	161	-----	161
Mixed alloy scrap	10,993	27,981	27,981	------	27,981	10,504	33	-----	33
Nickel silver	3,595	19,929	19,929	------	19,929	6,706	-----	-----	-----
Total	30,767	315,900	315,900	------	315,900	25,088	325	-----	325
Foundries and other plants;[2]									
Auto radiators (unsweated)	1,214	9,422	------	8,276	8,276	2,360	-----	373	373
Brass, composition or red	574	4,752	1,564	3,058	4,622	704	73	145	218
Brass, low (silicon bronze)	194	1,346	181	1,246	1,427	113	-----	-----	-----
Brass, yellow	882	8,020	3,571	4,204	7,775	1,127	5	41	46
Bronze	349	1,960	808	1,117	1,925	384	71	85	156
Low-grade scrap and residues	3,434	14,779	3,794	11,076	14,870	3,343	-----	-----	-----
Nickel silver	3	119	------	118	118	4	-----	-----	-----
Railroad-car boxes	1,010	27,334	------	27,401	27,401	943	-----	1,302	1,302
Total	7,660	67,732	9,918	56,496	66,414	8,978	149	1,946	2,095
Total tin from copper-base scrap							2,155	9,483	11,638
Lead-base scrap:									
Smelters, refiners, and others:									
Babbitt	296	14,678	------	14,663	14,663	311	-----	711	711
Battery lead plates	20,110	399,191	------	394,660	394,660	24,641	-----	414	414
Drosses and residues	[r] 22,377	92,785	100,029	------	100,029	15,133	2,087	-----	2,087
Solder and tinny lead	172	14,401	------	14,295	14,295	278	-----	2,496	2,496
Type metals	2,035	33,877	------	33,366	33,366	2,546	-----	1,585	1,585
Total	[r] 44,990	554,932	100,029	456,984	557,013	42,909	2,087	5,206	7,293
Tin-base scrap:									
Smelters, refiners, and others:									
Babbitt	29	399	8	389	397	31	7	325	332
Block-tin pipe	9	317	------	317	317	9	-----	314	314
Drosses and residues	483	4,171	3,908	------	3,908	746	2,454	-----	2,454
Pewter	1	30	------	27	27	4	-----	24	24
Total	522	4,917	3,916	733	4,649	790	2,461	663	3,124
Tinplate scrap: Detinning plants			783,433	------	783,433	-----	3,294	-----	3,294
Total tin recovered							9,997	15,352	25,349

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[r] Revised.

[1] Lines in brass mills and total sections do not balance as stocks include home scrap—purchased scrap assumed to equal receipts.

[2] Omits "machine shop scrap."

Table 6.—Consumption of primary and secondary tin in the United States

(Long tons)

	1957-61 (average)	1962	1963	1964	1965	1966
Stocks Jan. 1[1]	31,892	36,209	30,876	29,548	[r] 32,591	[r] 37,277
Net receipts during year:						
Primary	52,371	50,694	54,411	[r] 62,939	[r] 64,302	56,869
Secondary	2,595	2,409	2,290	2,524	2,530	2,713
Scrap	26,891	22,542	22,041	22,985	24,676	23,502
Total	81,857	75,645	78,742	[r] 88,448	[r] 91,508	83,084
Available	113,749	111,854	109,618	[r] 117,996	[r] 124,099	120,361
Stocks December 31[1]	33,445	30,876	29,548	[r] 32,591	[r] 37,277	32,566
Total processed during year	80,304	80,978	80,070	85,405	86,822	87,795
Intercompany transactions in scrap	2,049	1,893	1,767	2,515	2,811	2,309
Tin consumed in manufactured products	78,255	79,085	78,303	82,890	84,011	85,486
Primary	50,016	54,602	55,209	58,586	58,550	60,209
Secondary	28,239	24,483	23,094	24,304	25,461	25,277

[r] Revised.

[1] Stocks shown exclude tin in transit or in other warehouses on Jan. 1, as follows: 1957-61 (average) 1,629 tons; 1962, 425 tons; 1963, 115 tons; 1964, 175 tons; 1965, 220 tons; 1966, 135 tons; and 1967, 90 long tons

Table 7.—Tin content of tinplate produced in the United States

Year	Tinplate (hot-dipped)			Tinplate (electrolytic)			Tinplate waste-waste, strips cobbles, etc., gross weight (short tons)	Total tinplate (all forms)		
	Gross weight (short tons)	Tin content (long tons)	Tin per short ton of plate (pounds)	Gross weight (short tons)	Tin content (long tons)	Tin per short ton of plate (pounds)		Gross weight (short tons)	Tin content (long tons)[1]	Tin per short ton of plate (pounds)
1957-61 (average)	462,356	5,580	27.0	4,704,830	24,596	11.7	441,046	5,608,232	30,176	12.1
1962	212,525	2,291	24.1	4,989,463	26,417	11.9	545,623	5,747,611	28,708	11.2
1963	174,618	2,188	28.1	4,671,358	26,163	12.6	515,042	5,361,018	28,351	11.9
1964	138,178	1,347	21.8	5,204,541	29,872	12.9	637,481	5,980,200	31,219	11.7
1965	80,645	914	25.4	5,245,642	29,150	[r] 12.5	599,400	5,925,687	30,064	11.4
1966	44,290	366	18.5	5,145,550	28,218	12.3	675,558	5,865,398	28,584	11.0

[r] Revised.

[1] Includes small tonnage of secondary tin and tin acquired in chemicals.

Table 8.—Consumers receipts of primary tin, by brands

(Long tons)

Year	Banka	English	Katanga	Straits	Thaisarco	Others	Total
1957-61 (average)	8,376	4,550	1,603	32,146	-----	5,695	52,370
1962	8,978	1,448	1,369	34,341	-----	4,558	50,694
1963	3,393	2,708	1,027	36,413	-----	[1] 10,870	54,411
1964	1,271	1,441	1,839	[r] 38,972	-----	[r] [1] 19,416	[r] 62,939
1965	3,112	425	850	[r] 38,434	1,950	[1] 19,531	[r] 64,302
1966	709	433	95	30,560	9,815	[1] 15,257	56,869

[r] Revised.

[1] Includes GSA not reported under specific brands.

Table 9.—Consumption of tin in the United States, by finished products

(Long tons of contained tin)

Product	1965			1966		
	Primary	Secondary	Total	Primary	Secondary	Total
Alloys (miscellaneous)	302	174	476	405	179	584
Babbitt	2,304	1,362	3,666	2,145	1,625	3,770
Bar tin	1,756	76	1,832	2,035	141	2,176
Bronze and brass	4,569	12,307	16,876	5,339	12,575	17,914
Chemicals including tin oxide	1,141	1,692	2,833	1,213	1,617	2,830
Collapsible tubes and foil	999	61	1,060	1,215	66	1,281
Pipe and tubing	31	35	66	42	14	56
Solder	13,648	8,114	21,762	15,245	7,497	22,742
Terne metal	306	272	578	357	188	545
Tinning	2,404	83	2,487	2,589	67	2,656
Tinplate [1]	30,064	-----	30,064	28,584	-----	28,584
Type metal	123	1,177	1,300	93	1,205	1,298
White metal	839	74	913	878	51	929
Other	64	34	98	69	52	121
Total	58,550	25,461	84,011	60,209	25,277	85,486

[1] Includes secondary pig tin and tin acquired in chemicals

Table 10.—U.S. industry tin stocks

(Long tons)

	1962	1963	1964	1965	1966
Plant raw materials:					
Pig tin:					
Virgin	19,201	17,834	20,926	25,319	20,531
Secondary	193	220	247	202	276
In process [1]	11,482	11,494	[r]11,418	[r]11,756	11,759
Total	30,876	29,548	[r]32,591	[r]37,277	32,566
Additional pig tin:					
In transit in United States	115	175	220	135	90
Jobbers-importers	[2]2,145	[3]11,135	[4]2,950	[5]2,000	[6]1,790
Afloat to United States	4,140	5,060	1,740	1,875	3,415
Total	6,400	16,370	4,910	4,010	5,295
Grand total	37,276	45,918	[r]37,501	[r]41,287	37,861

[r] Revised.

[1] Tin content, including scrap.

[2] Includes 1,600 tons, representing bids rejected by GSA, from tin offered by Defense Materials Services of GSA in DMS-MET-20, Aug. 31 (1,600 tons), and in DEM-MET-25, Oct. 19 (1,400 tons). Does not include 1,000 tons representing total of weekly tin offerings in January 1963 (DMS-MET-25, Dec. 31).

[3] Includes GSA as follows: 10,780 tons end of December (bids rejected plus tonnage to be offered through March 27, 1964).

[4] Includes GSA as follows: 1,590 tons end of December 1964, sold but not delivered.

[5] Includes GSA as follows: 975 tons end of December 1965, sold but not delivered.

[6] Includes GSA as follows: 1,539 tons end of December 1966, sold but not delivered.

Table 11.—Monthly prices of Straits tin for prompt delivery in New York

(Cents per pound)

Month	1965			1966		
	High	Low	Average	High	Low	Average
January	170.000	148.500	157.256	183.000	176.625	178.750
February	156.750	152.250	154.979	180.500	174.500	178.105
March	171.625	158.000	164.984	175.750	171.000	173.984
April	186.000	172.250	180.673	179.750	171.500	174.238
May	200.875	184.125	191.950	173.000	162.500	169.280
June	197.375	177.250	188.943	162.625	158.750	160.767
July	192.000	178.000	184.119	161.750	158.250	159.869
August	190.250	182.500	186.955	158.750	153.500	156.418
September	194.000	188.000	191.905	155.500	153.500	154.125
October	189.250	180.375	185.315	155.250	154.000	154.506
November	188.000	173.750	176.763	154.875	153.750	154.224
December	178.250	170.500	174.226	154.750	153.500	153.989
Total	200.875	148.500	178.172	183.000	153.500	164.021

Source: American Metal Market.

Table 12.—U.S. exports of tin; imports for consumption and exports of tinplate and terneplate in various forms

Year	Ingots, pigs, and bars				Tinplate and terneplate		Tinplate circles, strips, and cobbles	Tinplate scrap
	Exports		Reexports		Imports	Exports	Exports	Imports
	Long tons	Value (thousands)	Long tons	Value (thousands)	Long tons	Long tons	Long tons	Long tons
1957–61 (average)	825	$1,462	355	$793	18,208	430,003	18,358	33,451
1962	335	840	100	267	46,857	294,510	21,994	18,832
1963	1,544	4,225	81	207	74,055	305,682	20,853	19,486
1964	2,726	9,241	1,315	6,225	80,693	338,588	24,591	23,011
1965	2,605	10,078	224	880	108,876	239,034	12,362	16,954
1966	1,866	6,985	981	3,849	111,678	257,140	11,031	14,687

Table 13.—U.S. imports for consumption and exports of miscellaneous tin, tin manufactures, and tin compounds

Year	Miscellaneous tin and manufactures						Tin compounds [1]:
	Imports			Exports			
	Tinfoil, tin powder, flitters, metallics, tin and manufacture n.s.p.f. value (thousands)	Dross, skimmings, scrap, residues, and tin alloys, n.s.p.f.		Tin cans, finished or unfinished		Tin scrap and other tin-bearing material, except tinplate scrap value (thousands)	Imports (long tons)
		Long tons	Value (thousands)	Long tons	Value (thousands)		
1957–61 (average)	$ 739	2,611	$4,933	33,228	$16,823	$2,168	10
1962	819	2,185	913	25,531	13,927	2,111	58
1963	731	2,683	1,703	21,595	12,169	2,423	81
1964	300	1,210	714	23,963	14,244	2,151	223
1965	261	[2] 502	[2] 883	(1)	(1)	1,220	163
1966	251	[2] 108	[2] 124	(1)	(1)	1,957	295

[1] Exports of tin compounds beginning Jan. 1, 1958, and tin cans, finished or unfinished, beginning Jan. 1, 1965, no longer separately classified.

[2] Not strictly comparable with earlier years.

Table 14.—U.S. imports for consumption of tin,[1] by countries

Country	1965		1966	
	Long tons	Value (thousands)	Long tons	Value (thousands)
Belgium-Luxembourg	172	$559	163	$619
Bolivia	418	1,516	118	427
Canada	(2)	10	4	31
Germany, West	---	---	(2)	1
Indonesia	235	951	4	12
Japan	537	2,054	50	166
Macao	45	152	---	---
Malagasy Republic	10	38	---	---
Malaysia	32,001	124,191	26,008	95,329
Netherlands	475	1,995	50	191
Nigeria	1,965	7,670	770	2,874
Peru	42	150	7	23
Philippines	17	59	---	---
Portugal	189	760	15	59
Singapore	---	---	55	207
Spain	75	320	---	---
Thailand	3,650	15,152	13,416	49,030
United Kingdom	985	3,929	1,039	3,792
Total	40,816	159,506	41,699	152,761

[1] Bars, blocks, pigs, grain, or granulated.

[2] Less than ½ unit.

Table 15.—U.S. imports for consumption of tin concentrate, by countries

Country	1965		1966	
	Long tons (tin content)	Value (thousands)	Long tons (tin content)	Value (thousands)
Bolivia	4,252	$12,992	4,347	$12,423
Mexico	-----	-----	13	8
Peru [1]	74	236	12	36
Total	4,326	13,228	4,372	12,467

[1] Reported by the Bureau of the Census as coming from Peru, but believed to be from Bolivia by the Bureau of Mines.

Table 16.—World mine production of tin (content of ore), by countries [1]

(Long tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	291	414	157	[r] 168	327
Mexico	576	1,055	1,207	503	821
United States	[3] W	[3] W	[3] W	47	97
South America:					
Argentina	231	225	343	[r] 497	1,142
Bolivia	[4] 21,492	[4] 22,752	[5] 24,186	[5] 23,349	[5] 24,763
Brazil [e]	[r] 732	1,150	[r] 790	[r] 1,810	1,850
Peru (recoverable)	11	[r] 21	[r] 36	[r] 49	37
Europe:					
Czechoslovakia	[6] 200	[6] 200	[6] 200	[6] 220	148
France	314	272	486	[r] 447	[e] 418
Germany, East [6]	[r] 1,000	[r] 1,000	[r] 1,000	[r] 1,000	1,000
Portugal [7]	679	718	676	[r] 583	589
Spain	231	158	91	[r] 113	129
U.S.S.R. [8] [9]	17,000	20,000	20,000	21,000	22,000
United Kingdom	1,181	1,226	1,226	1,313	1,272
Africa:					
Burundi	26	16	NA	10	NA
Cameroon, Republic of	23	25	40	40	[e] 25
Congo (Brazzaville)	46	43	34	[r] 44	48
Congo (Kinshasa)	6,875	6,883	[r] 5,108	[r] 6,324	[e] 5,100
Morocco	11	9	14	[r] 12	7
Niger, Republic of	41	54	48	[r] 53	[e] 60
Nigeria	8,210	8,723	8,721	9,547	9,354
Rhodesia, Southern	706	498	512	510	[e] 600
Rwanda	1,325	1,271	[r] 1,360	1,424	[e] 1,340
South Africa, Republic of	1,408	1,530	1,586	1,671	1,745
South-West Africa	369	443	474	[r] 416	[e] 700
Swaziland	5	3	3	2	1
Tanzania	218	234	287	255	353
Uganda	74	[r] 165	[r] 217	[r] 178	122
Zambia	5	1	8	[r] 16	3
Asia:					
Burma [7]	[r] 1,042	[r] 1,003	[r] 916	[r] 677	[e] 455
China [8]	28,000	28,000	25,000	25,000	22,000
Indonesia	17,310	12,927	16,345	[r] 14,699	[e] 12,526
Japan	859	857	796	[r] 837	[e] 971
Korea, South	17	-----	-----	-----	32
Laos	367	326	336	284	[e] 340
Malaysia	58,603	59,947	60,004	63,670	68,886
Thailand	14,679	15,585	15,597	[r] 19,047	22,565
Oceania: Australia	2,715	2,860	[r] 3,642	[r] 3,871	4,486
World total [e]	[r] 186,900	[r] 190,600	[r] 191,500	[r] 199,700	205,300

[e] Estimate. [p] Preliminary. W Withheld to avoid disclosing individual company confidential data.

[r] Revised.

[1] Data derived in part from the Statistical Bulletin of the International Tin Council, London, England. Negligible amounts of tin were also produced in Mozambique and Surinam during 1962–66.

[2] Compiled mostly from data available May 1967.

[3] Included in world total.

[4] Exports.

[5] Comibol production plus exports by small and medium mines and smelters.

[6] Estimate, according to the 52d annual issue of Metal Statistics (Metallgesellschaft) through 1965.

[7] Includes tin content of mixed concentrates.

[8] Estimated smelter production.

[9] Output from U.S.S.R. in Asia included with U.S.S.R. in Europe.

Table 17.—World smelter production of tin, by countries[1]

(Long tons)

Country	1962	1963	1964	1965	1966[p,2]
North America:					
Mexico	520	1,055	1,145	459	795
United States[3,4]	5,364	1,650	5,190	[r] 4,326	4,372
South America:					
Bolivia	2,023	2,462	3,610	[r] 3,415	1,062
Brazil	[r] 1,835	2,051	1,731	1,753	1,506
Europe:					
Belgium	8,607	7,044	5,458	4,232	4,978
Germany:					
East[5]	[r] 1,000	[r] 1,200	[r] 1,200	[r] 1,200	1,200
West	1,309	1,052	1,178	[r] 1,427	1,362
Netherlands	4,282	5,762	15,858	18,114	12,552
Portugal	766	663	589	[r] 603	552
Spain	910	1,286	1,774	[r] 1,678	2,957
U.S.S.R.[e,6,7]	17,000	20,000	20,000	21,000	22,000
United Kingdom	18,749	17,411	16,849	16,494	17,499
Africa:					
Congo (Kinshasa)	945	1,441	1,485	[r] 1,815	2,002
Morocco[e]	10	10	10	12	12
Nigeria[8]	8,024	9,051	[r] 8,749	[r] 9,321	9,869
Rhodesia, Southern	679	499	511	494	[e] 480
South Africa, Republic of	821	962	1,016	962	822
Asia:					
China[e]	28,000	28,000	25,000	25,000	22,000
Indonesia[e]	2,000	2,000	1,800	1,800	1,510
Japan	1,822	1,976	1,954	[r] 1,610	1,836
Malaysia	82,073	84,001	71,351	72,469	71,049
Thailand	-----	-----	-----	[r] 5,522	16,948
Oceania: Australia	2,704	2,626	[r] 3,021	3,143	3,706
World total[e]	[r] 189,400	[r] 192,200	[r] 189,500	[r] 196,800	201,000

[e] Estimate. [p] Preliminary. [r] Revised.
[1] Data derived in part from the Statistical Bulletin of the International Tin Council, London, England.
[2] Compiled mostly from data available May 1967.
[3] Includes tin content of alloys made directly from ores.
[4] Imports into the United States of tin concentrates (tin content).
[5] Estimate, according to the 52d annual issue of Metal Statistics (Metallgesellschaft) through 1965.
[6] Output from U.S.S.R. in Asia included with U.S.S.R. in Europe.
[7] Includes secondary.
[8] Including a small amount smelted from imported concentrates.

Table 18.—Thailand: Tin mines operating at yearend

Mining method	1960	1961	1962	1963	1964	1965	1966
Dredging	20	20	22	20	20	21	20
Gravel pumping and hydraulicking	81	103	128	131	158	253	315
Other means	221	252	274	307	283	312	327
Total	322	375	424	458	461	586	662

Titanium

Table 1.—Salient titanium statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Ilmenite concentrate:						
Mine shipments short tons	711,454	809,037	890,071	1,003,997	948,832	868,436
Value thousands	$14,608	$13,974	$16,529	$19,178	$18,058	$17,608
Imports short tons	330,596	166,434	200,880	173,219	166,315	186,539
Consumption do	857,423	944,797	874,986	980,426	923,304	962,706
Titanium slag:						
Consumption do	125,610	138,205	152,416	128,203	148,184	132,233
Rutile concentrate:						
Mine shipments do	7,609	8,033	11,311	10,547	W	W
Value thousands	$873	$933	$1,262	$1,016	W	W
Imports short tons	40,272	35,966	71,990	110,981	151,748	151,482
Consumption do	30,518	31,749	35,189	79,446	117,376	135,883
Sponge metal:						
Production do	7,554	6,730	7,879	W	W	W
Imports for consumption do	2,378	925	1,468	2,056	3,134	5,675
Consumption do	5,760	7,136	8,865	11,131	12,105	19,677
Price: Dec. 31 per pound	$1.77	[r] $1.60	[r] $1.60	[r] $1.32	[r] $1.32	$1.32
World production:						
Ilmenite concentrate short tons	2,031,760	2,170,200	2,190,100	2,589,200	2,723,100	2,888,700
Rutile concentrate do	121,740	150,200	221,800	214,800	242,600	276,600

[r] Revised.
W Withheld to avoid disclosing individual company confidential data.

Table 2.—Production and mine shipments of titanium concentrates from domestic ores in the United States

Year	Production short tons (gross weight)	Shipments		
		Short tons (gross weight)	Short tons TiO_2 content	Value (thousands)
Ilmenite:[1]				
1957–61 (average)	704,838	711,454	374,861	$14,608
1962	807,725	809,037	420,606	13,974
1963	888,400	890,071	470,983	16,529
1964	1,001,132	1,003,997	526,642	19,178
1965	969,459	948,832	494,353	18,058
1966	965,378	868,436	451,132	17,608
Rutile:				
1957–61 (average)	9,085	7,609	7,187	873
1962	9,981	8,033	7,617	933
1963	11,915	11,311	10,839	1,262
1964	8,062	10,547	10,112	1,016
1965–66	W	W	W	W

W Withheld to avoid disclosing individual company confidential data.
[1] Includes a mixed product containing rutile, leucoxene, and altered ilmenite.

Table 3.—Titanium-metal data

(Short tons)

	1962	1963	1964	1965	1966
Sponge metal:					
Production	6,730	7,879	W	W	W
Imports for consumption	925	1,468	2,056	3,134	5,675
Industry stocks	1,300	1,100	800	[r] 900	800
Government stocks (DPA inventories)	22,461	22,371	22,254	22,339	-----
Consumption	7,136	8,865	11,131	12,105	19,677
Scrap-metal consumption	3,160	2,335	2,877	3,303	4,857
Ingot:[1]					
Production	10,400	11,138	13,964	15,294	24,253
Consumption	9,773	10,506	13,501	14,694	22,317
Mill shape production[2]	6,521	6,112	7,708	[r] 9,358	14,017

[r] Revised.

W Withheld to avoid disclosing individual company confidential data.

[1] Includes alloy constituents.

[2] Bureau of the Census and Business and Defense Services Administration, Current Industrial Reports Series BDSAF-263(66). Net shipments derived by subtracting the sum of producers' receipts of each mill shape from the industry's gross shipments of that shape. Data not comparable with previous years.

Table 4.—Titanium pigment data (TiO_2 content)

Year	Production (short tons)	Shipments[1]	
		Quantity (short tons)	Value, f.o.b. (thousands)
1957–61 (average)	465,055	453,304	$244,137
1962	523,201	513,822	270,438
1963	519,458	528,416	278,477
1964	558,536	549,329	288,031
1965	[r] 575,240	572,295	308,303
1966	[2] 596,666	NA	NA

[r] Revised. NA Not available.

[1] Includes interplant transfers.

[2] Preliminary.

Source: Bureau of the Census.

Table 5.—Consumption of titanium concentrates in the United States, by products

(Short tons)

Year and product	Ilmenite[1]		Titanium slag		Rutile	
	Gross weight	Estimated TiO_2 content	Gross weight	Estimated TiO_2 content	Gross weight	Estimated TiO_2 content
1957–61 (average)	857,423	450,526	125,610	88,739	30,518	28,974
1962	944,797	501,196	138,205	98,632	31,749	30,235
1963	874,986	459,506	152,416	108,645	35,189	33,326
1964	980,426	511,053	128,203	91,868	79,446	76,328
1965:						
Pigments	920,168	481,364	148,184	105,483	(2)	(2)
Titanium metal	-----	-----	-----	-----	(2)	(2)
Welding-rod coatings	(2)	(2)	(3)	(3)	22,402	21,212
Alloys and carbide	2,589	1,311	(3)	(3)	928	863
Ceramics	(2)	(2)	-----	-----	(4)	(4)
Fiberglas	-----	-----	-----	-----	945	918
Miscellaneous	547	327	-----	-----	93,101	90,024
Total	923,304	483,002	148,184	105,483	117,376	113,017
1966:						
Pigments	959,343	505,592	132,233	93,683	(2)	(2)
Titanium metal	-----	-----	-----	-----	(2)	(2)
Welding-rod coatings	(2)	(2)	(3)	(3)	23,904	22,656
Alloys and carbide	2,876	1,500	(3)	(3)	935	869
Ceramics	(2)	(2)	-----	-----	(4)	(4)
Fiberglas	-----	-----	-----	-----	909	884
Miscellaneous	487	287	-----	-----	110,135	105,782
Total	962,706	507,379	132,233	93,683	135,883	130,191

[1] Includes a mixed product containing rutile, leucoxene, and altered ilmenite used to make pigments and metal.
[2] Included with "Miscellaneous" to avoid disclosing individual company confidential data.
[3] Included with "Pigments" to avoid disclosing individual company confidential data.
[4] Included with "Alloys and carbide" to avoid disclosing individual company confidential data.

Table 6.—Distribution of titanium-pigment shipments, by industries

(Percent)

Industry	1957–61 (average)	1962	1963	1964	1965	1966
Distribution by gross weight:						
Paints, varnishes, and lacquers	64.8	61.9	63.3	62.6	62.9	61.6
Paper	11.6	13.0	12.5	12.4	12.6	13.9
Floor coverings	4.7	4.7	4.3	3.9	3.6	3.4
Rubber	4.0	4.2	4.0	3.1	4.2	4.2
Coated fabrics and textiles (oil cloth, shade cloth, artificial leather, etc.)	3.0	3.3	2.0	1.2	1.4	1.4
Printing ink	1.5	1.7	1.6	1.7	1.8	1.9
Roofing granules	(1)	(1)	2.1	1.6	1.3	1.2
Ceramics	(1)	(1)	1.2	1.5	1.5	1.7
Plastics (excelt floor covering and vinyl-coated fabrics and textiles)	(1)	(1)	2.9	4.4	3.6	3.8
Other (including export)	10.4	11.2	6.1	7.6	7.1	6.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Distribution by titanium dioxide content:						
Paints, varnishes, and lacquers	58.1	55.3	57.0	56.8	57.4	56.4
Paper	15.0	16.2	15.5	15.2	15.2	16.7
Floor coverings	5.9	5.8	5.2	4.7	4.3	3.9
Rubber	5.0	5.2	4.9	3.7	5.0	4.9
Coated fabrics and textiles (oil cloth, shade cloth, artificial leather, etc.)	3.9	4.0	2.0	1.4	1.6	1.6
Printing ink	1.9	2.1	2.0	2.1	2.1	2.2
Roofing granules	(1)	(1)	2.6	1.9	1.7	1.5
Ceramics	(1)	(1)	1.5	1.9	1.8	2.1
Plastics (except floor covering and vinyl-coated fabrics and textiles)	(1)	(1)	3.7	5.4	4.3	4.6
Other (including export)	10.2	11.4	5.6	6.9	6.6	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Data not available. Included with "Other".

Table 7.—Stocks of titanium concentrates in the United States, Dec. 31

(Short tons)

Year and stock	Ilmenite		Titanium slag		Rutile	
	Gross weight	TiO_2 content, estimated	Gross weight	TiO_2 content. estimated	Gross weight	TiO_2 content, estimated
1965:						
Mine	45,213	26,258	-----	-----	(1)	(1)
Distributor	212	126	(1)	(1)	13,870	13,318
Consumer	717,714	400,589	109,091	77,463	149,733	144,295
Total	763,139	426,973	109,091	77,463	163,603	157,613
1966:						
Mine	(2)	(2)	-----	-----	(2)	(2)
Distributor	142,457	87,579	(1)	(1)	18,404	15,834
Consumer	654,634	362,326	137,269	97,022	148,277	142,629
Total	797,091	449,905	137,269	97,022	166,681	158,463

[1] Included with "Consumer" to avoid disclosing individual company confidential data.
[2] Included with "Distributor" to avoid disclosing individual company confidential data.

Table 8.—U.S. exports of titanium products, by classes

Year	Ores and concencrates		Metal and alloy sponge and scrap		Intermediate mill shapes and mill products, n.e.c.[1]		Dioxide and pigments	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957-61 (average)	2,123	$219	486	$518	485	$5,147	38,203	$12,162
1962	1,224	167	818	925	561	4,102	29,095	8,636
1963	1,212	176	1,261	1,232	494	3,444	26,702	8,051
1964	2,161	386	1,817	1,781	865	4,998	29,359	8,287
1965	1,201	203	2,132	2,070	605	5,144	26,896	7,249
1966	1,300	213	1,733	1,988	1,371	9,585	26,872	7,601

[1] Not elsewhere classified.

Table 9.—U.S. imports for consumption of titanium concentrates,[1] by countries

(Short tons and thousand dollars)

Country	1957-61 (average)	1962	1963	1964	1965	1966
Illmenite:						
Australia	27,701	57,941	52,883	17,122	49,312	46,245
Canada [2]	143,860	108,493	133,885	144,897	r 117,003	140,237
India	158,562	---	14,112	11,200	---	---
Other countries	473	(3)	(3)	---	---	57
Total:						
Short tons	330,596	166,434	200,880	173,219	r 166,315	186,539
Value	$7,032	$4,470	$5,088	$5,472	r 4,771	$6,698
Rutile:						
Australia	39,620	35,542	71,990	110,981	151,748	151,463
Other countries	652	424	---	---	---	19
Total:						
Short tons	40,272	35,966	71,990	110,981	151,748	151,482
Value	$5,091	$2,646	$4,921	$7,724	$10,114	$8,494

r Revised.
[1] Classified as "ore" by the Bureau of the Census.
[2] Chiefly titanium slag averaging about 70 percent TiO_2.
[3] Less than ½ unit.

Table 10.—World production of titanium concentrates (ilmenite and rutile) by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
Ilmenite:					
Australia (shipments)	200,332	225,102	[r] 340,064	[r] 498,739	578,264
Brazil [3]	5,891	6,484	9,117	10,796	14,920
Canada (titanium slag) [4]	301,448	379,320	544,721	545,916	524,773
Ceylon	4,652	21,041	50,880	54,222	[5] 45,415
Finland	96,110	103,461	127,937	117,947	129,588
India	152,241	28,619	[r] 13,273	33,132	33,253
Japan (titanium slag)	578	963	2,161	3,190	4,961
Malagasy Republic	3,510	4,027	5,291	[r] 6,957	6,821
Malaysia (exports)	113,856	164,656	144,774	136,154	130,364
Mexico	-----	155	-----	-----	-----
Norway	276,788	[r] 267,040	[r] 299,854	311,017	407,546
Portugal	75	45	63	[r] 83	278
Senegal	24,727	13,436	1,455	-----	-----
South Africa, Republic of	87,096	31,039	-----	-----	-----
Spain	45,935	55,745	48,418	35,458	46,548
United Arab Republic (Egypt)	49,210	596	23	-----	607
United States [6]	807,725	888,400	1,001,132	969,459	965,378
World total ilmenite [e] [1]	2,170,200	[r] 2,190,100	[r] 2,589,200	[r] 2,723,100	2,888,700
Rutile:					
Australia	133,499	205,251	[r] 204,256	[r] 240,743	274,172
Brazil	388	429	315	[r] 397	[e] 400
India	1,781	2,062	2,062	1,452	2,002
Senegal	811	780	60	-----	-----
South Africa, Republic of	3,575	1,385	-----	-----	-----
United Arab Republic (Egypt)	198	4	-----	-----	37
United States	9,981	11,915	8,062	W	W
World total rutile [e] [1]	150,200	221,800	[r] 214,800	[r] 242,600	276,600

[e] Estimate. [p] Preliminary. [r] Revised. W Withheld to avoid disclosing individual company confidential data.

[1] Titanium concentrates are produced in U.S.S.R., but no reliable figures are available; no estimate is included in the total.

[2] Compiled from data available May 1967.

[3] Production—Comissao Nacional de Energia Nuclear only.

[4] Containing approximately 70–72 percent TiO_2.

[5] Exports.

[6] Includes a mixed product containing ilmenite, leucoxene, and rutile.

[7] Excludes U.S. data.

Table 11.—Australia: Exports of ilmenite concentrates, by countries

(Short tons)

Destination	1962	1963	1964	1965	1966 [1]
France	115	1	45,406	28,947	(2)
Japan	30,776	25,337	55,876	50,884	
Netherlands	46	1,127	411	333	
South Africa, Republic of	-----	-----	20,017	24,640	
United Kingdom	84,426	80,032	136,516	225,912	
United States	57,983	40,430	17,130	72,913	
Other countries	338	23,358	227	376	
Total	173,684	170,285	275,583	404,005	191,070

[1] January through June, inclusive.

[2] Countries of destination not available for 1966.

Table 12.—Australia: Exports of rutile concentrates, by countries

(Short tons)

Destination	1962	1963	1964	1965	1966 [1]
Belgium	3,725	3,212	4,287	4,084	(2)
France	8,211	6,938	9,803	12,758	(2)
Germany, West	9,521	4,972	10,625	9,051	(2)
Italy	7,587	7,158	6,851	5,915	(2)
Japan	9,298	12,460	17,832	22,715	10,933
Netherlands	17,387	10,626	15,206	12,601	(2)
Poland	-----	-----	-----	4,633	(2)
Spain	-----	-----	-----	3,349	(2)
Sweden	4,785	4,392	4,454	4,742	(2)
Switzerland	-----	-----	-----	1,364	5,442
United Kingdom	19,017	16,386	17,187	18,923	12,993
United States	35,625	88,234	107,539	152,479	57,108
Other countries	16,210	18,671	23,376	15,574	34,783
Total	131,366	173,049	217,160	268,188	121,259

[1] January through June, inclusive.
[2] Data not separately recorded.

Tungsten

Table 1.—Salient tungsten statistics

(Thousand pounds of contained tungsten)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production	[1] 7,630	8,280	W	W	W	W
Mine shipments	5,430	8,021	5,384	8,798	7,566	8,482
Releases from Government stocks	-----	1,594	418	758	926	8,273
Imports, general	7,046	3,709	3,882	2,737	3,495	4,203
Imports for consumption	6,329	4,030	3,060	3,148	3,618	4,298
Consumption of concentrate	9,286	13,691	11,061	12,311	13,868	17,710
Stocks:						
Producer	[1] 3,132	3,004	3,313	580	411	358
Consumer and dealer	3,665	3,054	2,934	2,090	1,434	1,582
World: Production	63,461	69,000	60,720	61,481	60,054	62,147

W Withheld to avoid disclosing individual company confidential data.

[1] Excludes 1958–59 to avoid disclosing individual company confidential data.

Table 2.—Tungsten concentrate shipped from mines in the United States

Year	Quantity			Reported value, f.o.b. mines [1]		
	Short tons, 60 percent WO_3 basis	Short-ton units WO_3[2]	Tungsten content (thousand pounds)	Total (thousands)	Average per unit of WO_3	Average per pound of tungsten
1957–61 (average)	5,705	342,332	5,430	$7,412	$21.65	$1.37
1962	8,429	505,685	8,021	11,639	23.02	1.45
1963	5,657	339,402	5,384	7,202	21.22	1.34
1964	9,244	554,676	8,798	11,251	20.28	1.28
1965	7,949	476,979	7,566	13,028	27.32	1.72
1966	8,912	534,727	8,482	17,620	32.95	2.08

[1] Values apply to finished concentrate and are in some instances f.o.b. custom mill.

[2] A short-ton unit equals 20 pounds of tungsten trioxide (WO_3) and contains 15.862 pounds of tungsten.

Table 3.—Production, shipments, and stocks of tungsten products in the United States

(Thousand pounds of contained tungsten)

	Hydrogen- and carbon-reduced metal powder	Tungsten carbide powder		Chemicals	Other [1]	Total
		Made from metal powder	Crushed cast			
1965:						
Received from other producers	5,152	17	1	4,846	1,516	11,532
Gross production during year	8,909	4,542	1,350	11,011	3,302	29,114
Used to make other products listed here	5,831	---	---	9,521	1,297	16,649
Net production	3,078	4,542	1,350	1,490	2,005	12,465
Shipments [2]	8,291	4,472	1,244	6,607	3,533	24,147
Producer stocks, December 31	2,210	235	235	1,387	945	5,012
1966:						
Received from other producers	5,304	100	16	4,975	1,798	12,193
Gross production during year	10,321	5,392	1,485	13,164	3,867	34,229
Used to make other products listed here	6,792	---	---	11,139	1,535	19,466
Net production	3,529	5,392	1,485	2,025	2,332	14,763
Shipments [2]	8,883	5,416	1,713	6,971	4,308	27,291
Producer stocks, December 31	2,160	293	23	1,415	768	4,659

[1] Includes ferrotungsten, tungsten carbide powder (crystalline), scheelite (producer from scrap), nickel-tungsten, self-reducing oxide, pellets, and scrap.

[2] Includes quantities consumed by producing firms for manufacture of products not listed here.

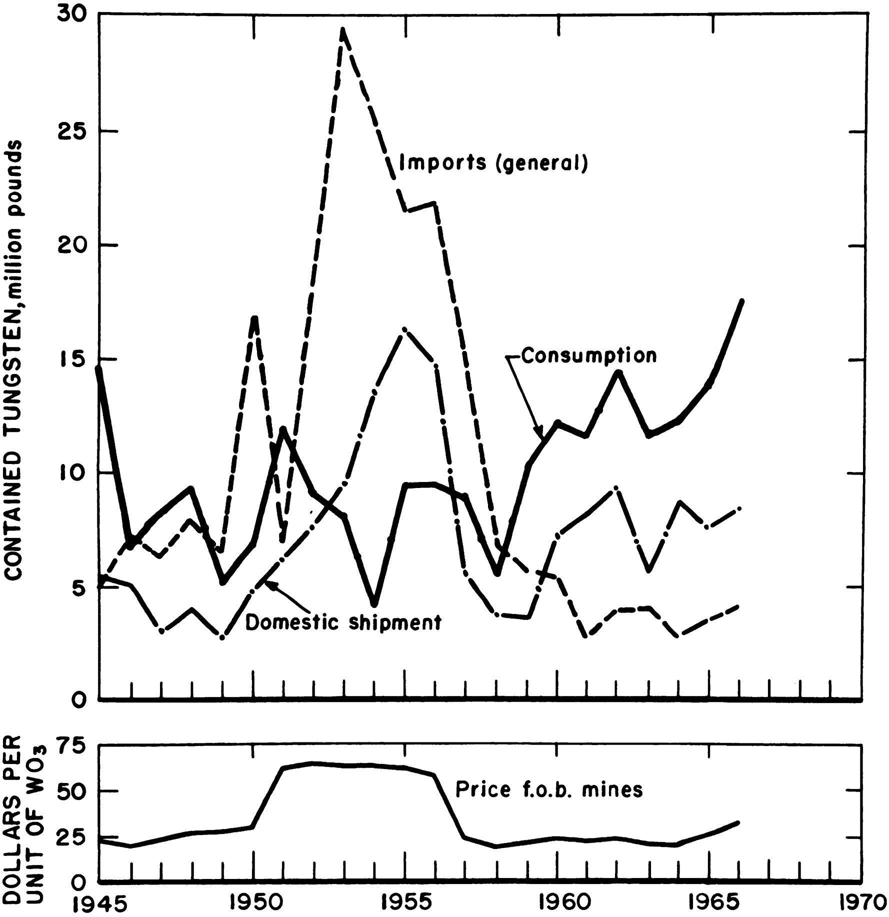

Figure 1.—Domestic shipments, imports, consumption, and average price of tungsten ore and concentrate.

Table 4.—Consumption of tungsten products by end uses

(Thousand pounds of contained tungsten)

	Ferrotungsten melting base self-reducing tungsten, tungsten sponge mix, etc.	Carbon reduced tungsten powder [1]	Hydrogen reduced tungsten powder [2]	Tungsten carbide powder [3]	Chemicals	Scheelite (natural or synthetic)	Scrap	Total
1965:								
Steel:								
High-speed	648	46	-----	-----	-----	774	185	1,653
Hot-work and other tool	224	11	-----	-----	-----	294	17	546
Alloy (other than tool) [4]	765	39	1	1	-----	104	66	976
High-temperature nonferrous alloys [5]	45	357	28	-----	-----	69	217	716
Other nonferrous alloys [6]	17	4	154	234	18	1	130	558
Tungsten metal:								
Wire, rod, and sheet	1	-----	2,044	-----	-----	-----	-----	2,045
Other [7]	1	2	696	-----	-----	-----	-----	699
Carbides:								
Cemented or sintered	-----	-----	78	5,002	-----	-----	9	5,089
Other (including cast or fused)	4	84	87	888	-----	-----	86	1,149
Chemicals [8]	-----	-----	-----	-----	147	-----	-----	147
Total	1,705	543	3,088	6,125	165	1,242	710	13,578
Stocks at consumer plants Dec. 31, 1965	305	63	508	313	28	-----	281	1,498
1966:								
Steel:								
High-speed	947	64	-----	-----	-----	1,096	98	2,205
Hot-work and other tool	280	14	-----	-----	-----	525	3	822
Alloy (other than tool) [4]	933	6	1	1	-----	197	78	1,216
High-temperature nonferrous alloys [5]	108	299	30	-----	-----	121	344	902
Other nonferrous alloys [6]	29	6	186	5	15	1	185	427
Tungsten metal:								
Wire, rod, sheet and other [7]	1	1	2,513	-----	8	-----	-----	2,523
Carbides:								
Cemented or sintered	-----	-----	3	6,267	-----	-----	73	6,343
Other (including cast or fused)	2	105	61	1,339	-----	-----	125	1,632
Chemicals [8]	-----	-----	-----	-----	152	-----	-----	152
Unspecified	1	-----	1	11	-----	-----	-----	13
Total	2,301	495	2,795	7,623	175	1,940	906	16,235
Stocks at consumer plants Dec. 31, 1966	483	84	424	299	36	-----	314	1,640

[1] Includes tungsten metal pellets that may be hydrogen or carbon reduced or scrap.
[2] Excludes quantities consumed in making tungsten carbide powder.
[3] Includes tungsten carbide made from metal powder and crystalline and crushed cast.
[4] Includes steel mill rolls, stainless and other alloy steels.
[5] Includes cutting and wear resistant alloys, high-temperature and other superalloys.
[6] Includes diamond drill bit matrices, electrical contact points, alloy welding rods, and resistance alloys.
[7] Includes wire, rod, and sheet produced from arc-melted material and various shaped parts produced by powder metallurgy techniques.
[8] Includes fluorescent powders, organic and inorganic pigments.

Table 5.—Monthly price quotations of tungsten concentrate in 1966

Month	London market, ore per long-ton unit of WO_3, 65 percent basis — Wolfram and scheelite		Equivalent quotation, per short-ton unit of WO_3		
	Low	High	Low	High	Average[1]
January	260s	300s	$32.50	$37.50	$35.00
February	300	365	37.50	45.63	41.56
March	335	375	41.88	46.88	44.38
April	287 ½	345	35.94	43.13	39.53
May	260	300	32.50	37.50	35.00
June	260	280	32.50	35.00	33.75
July	260	280	32.50	35.00	33.75
August	255	280	31.88	35.00	33.44
September	270	298 ½	33.75	37.31	35.53
October	297 ½	318 ½	37.19	39.81	38.45
November	290	318 ½	36.25	39.81	38.03
December	290	335	36.25	41.88	39.06

[1] Arithmetic average of weekly quotations. Average price $37.29; duty $7.93; average price, duty paid $45.22.

Source: E&MJ Metal and Mineral Markets.

Table 6.—Tungsten shipped from the Virgin Islands to the continental United States in 1966

(Pounds)

Kind	Gross weight	Tungsten content	Value (thousands)
Unwrought:			
Containing by weight not more than 50 percent tungsten	95,100	46,979	$100
Containing by weight more than 50 percent tungsten	1,400	735	1
Tungstic acid	71,447	36,991	52
Total	167,947	84,705	153

Table 7.—U.S. imports for consumption of tungsten ore and concentrate, by countries

(Thousand pounds and thousand dollars)

Country	1965			1966		
	Gross weight	Tungsten content	Value	Gross weight	Tungsten content	Value
Argentina	299	156	$73	33	17	$34
Australia	592	336	396	1,089	632	1,256
Bolivia	2,151	r 1,000	1,066	1,038	623	871
Brazil	-----	-----	-----	55	32	47
Burma	-----	-----	-----	26	14	42
Burundi and Rwanda	122	67	93	66	35	57
Canada	1,382	746	609	2,040	1,087	1,209
China[1]	68	35	47	-----	-----	-----
Congo (Kinshasa)	211	114	155	178	96	152
Hong Kong	45	24	19	11	6	10
Korea, South	500	290	268	534	307	405
Mexico	234	129	138	144	73	149
Netherlands	-----	-----	-----	48	29	49
Peru	1,026	596	879	1,059	606	1,207
South Africa, Republic of	102	53	71	-----	-----	-----
Sweden	-----	-----	-----	4	2	3
Portugal	31	18	29	851	500	1,022
Thailand	80	40	43	-----	-----	-----
United Kingdom[2]	-----	-----	-----	415	239	346
Total	6,843	r 3,604	3,886	7,591	4,298	6,859

r Revised.

[1] Importation permitted under Foreign Assets Control license issued in September 1965. This material was originally exported from mainland China to the United Kingdom in 1948–49 and stockpiled.

[2] Represents transshipments, rather than country of origin.

Table 8.—U.S. imports for consumption of ferrotungsten, by countries

(Thousand pounds and thousand dollars)

Country	1965			1966		
	Gross weight	Tungsten content	Value	Gross weight	Tungsten content	Value
Austria	390	312	$305	291	233	$362
France	22	18	37	79	64	148
Germany, West	18	15	17	-----	-----	-----
Japan	31	23	7	-----	-----	-----
United Kingdom	22	18	38	102	82	186
Total	483	386	404	472	379	696

Table 9.—U.S. imports for consumption of tungsten or tungsten carbide forms

(Thousand pounds and thousand dollars)

Year	Ingots, shot, bars, and scrap		Wire, sheets, or other forms, n.s.p.f.		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	136	$152	169	$455	305	$607
1962	194	189	73	384	267	573
1963	364	218	158	462	522	680
1964	323	181	75	213	398	394
1965	61	83	26	176	87	259
1966	292	432	45	199	337	631

Table 10.—World production of tungsten ore and concentrate, by countries

(Short tons 60 percent WO_3 basis)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	3	-----	NA	[r] 3,114	3,310
Mexico	88	36	9	202	158
United States (shipments)	8,429	5,657	9,244	7,949	8,912
South America:					
Argentina	619	184	[r] 67	159	NA
Bolivia [2]	2,798	2,513	2,285	2,043	2,902
Brazil	1,368	612	[r] 422	[r] 421	[e] 440
Peru	[r] 484	[r] 569	[r] 712	[r] 877	802
Europe:					
Austria	320	246	116	215	151
France	772	-----	-----	-----	-----
Italy	1	2	1	1	1
Portugal	2,754	1,784	1,948	[r] 1,811	2,222
Spain	777	162	41	77	107
Sweden	295	301	-----	-----	-----
U.S.S.R. [e]	11,600	12,100	12,100	12,700	12,700
Yugoslavia	57	19	[r] 141	[e] 145	119
Africa:					
Congo (Kinshasa) [3]	406	223	258	237	208
Nigeria	(4)	-----	2	2	1
Rhodesia, Southern	24	3	-----	[r] 31	NA
Rwanda	165	14	165	[r] 303	[2] 453
South Africa, Republic of	28	9	4	4	9
South-West Africa [3]	[r] 184	239	[r] 209	187	194
Tanzania	-----	-----	-----	-----	11
Uganda	13	2	-----	54	143
Asia:					
Burma [3]	882	827	[r] 639	[r] 371	261
China, mainland [e]	24,900	24,900	22,500	18,700	18,700
Hong Kong	18	9	1	8	10
India	12	6	10	[r] 17	30
Japan	1,160	856	958	[r] 796	759
Korea:					
North [e]	4,400	4,400	4,400	4,900	4,900
South	7,456	6,092	5,988	4,935	4,762
Malaysia	[r] 12	8	6	11	8
Thailand	471	228	474	610	617
Oceania:					
Australia	1,946	1,793	[r] 1,857	2,197	2,439
New Zealand	10	6	6	-----	3
World total [e]	[r] 72,500	63,800	[r] 64,600	[r] 63,100	65,300

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available July 1967.

[2] Exports.

[3] Including WO_3 in tin-tungsten concentrates.

[4] Less than ½ unit.

Table 11.—Free world consumption of tungsten ore and concentrate, by certain countries

(Thousand pounds, tungsten content)

Country	1960	1961	1962	1963	1964	1965	1966 [p]
Argentina	44	13	18	13	[r] 60	117	141
Austria	NA	NA	NA	NA	7,136	7,390	4,541
Belgium	33	115	82	13	2	44	33
Canada	712	642	1,111	564	287	450	441
France	2,628	3,181	2,601	2,522	1,850	2,641	3,527
Japan	3,508	5,915	3,514	4,120	4,921	3,248	3,527
Portugal	128	37	37	247	653	434	353
Sweden	1,530	1,534	1,940	1,453	1,552	2,167	2,205
United Kingdom [1]	7,736	7,588	6,003	6,316	7,463	10,390	8,818
United States	11,605	11,129	13,691	11,061	12,311	13,868	17,710
Total	27,924	30,154	28,997	26,309	36,235	40,744	41,296

[p] Preliminary. [r] Revised. NA Not available.

[1] Apparent consumption.

Source: United Nations Committee on Tungsten.

Uranium

Table 1.—Salient uranium statistics

(Short tons)

	1962	1963	1964	1965	1966
United States:					
Production:					
Mine (ore shipments)	[r] 7,015,888	[r] 5,613,570	[r] 5,359,653	[r] 4,385,995	4,352,651
Mill (U_3O_8 content) [1]	17,010	14,218	11,847	10,442	9,483
Imports: Concentrate (U_3O_8)	11,720	8,802	5,297	2,650	2,049
Free world:					
Production (U_3O_8 content)	34,500	31,100	26,800	21,100	19,700

[r] Revised.

[1] Concentrate marketed.

Table 2.—Uranium mine and mill production in 1966, by States

State	Ore shipped				Concentrate purchased by AEC		
	Short tons	Value (thousands)	U_3O_8 content		Number of mills	U_3O_8 thousand pounds	Cost (thousands)
			Percent	Pounds			
Arizona	64,195	$ 1,978	0.36	463,378	-----	-----	-----
Colorado	633,113	10,530	.21	2,680,399	3	2,515	$20,118
New Mexico	2,080,481	38,754	.24	9,783,274	4	8,786	70,285
Utah	236,860	5,169	.26	1,253,558	-----	-----	-----
Wyoming	1,082,197	18,160	.22	4,832,534	5	3,887	31,094
Other States [1]	255,805	2,933	.17	854,431	5	3,787	30,276
Total	4,352,651	77,524	.23	19,867,574	17	18,975	$151,773

[1] Ore shipments: California, Montana, Nevada, North Dakota, South Dakota, Texas, and Washington. Concentrates: Arizona, South Dakota, Texas, Utah, and Washington.

Table 3.—Uranium processing plants, December 31, 1966

State and company	Plant location	Tons deliverable to AEC under contract from Jan. 1, 1967
Colorado:		
American Metal Climax, Inc	Grand Junction	-----
Cotter Corp	Canyon City	-----
Union Carbide Corp	Rifle	3,600
Do	Uravan	
New Mexico:		
The Anaconda Company	Bluewater	3,800
Homestake-Sapin Partners	Grants	[1] 8,200
Kerr-McGee Corp	do	6,050
Vanadium Corporation of America	Shiprock	1,340
Oregon:		
Continental Mining & Milling Co	Lakeview	-----
South Dakota:		
Mines Development, Inc	Edgemont	-----
Texas:		
Susquehanna-Western, Inc	Falls City	-----
Utah:		
Atlas Corp	Moab	3,800
Wyoming:		
Federal-Radorock-Gas Hills Partners	Gas Hills	1,450
Petrotomics Co	Shirley Basin	-----
Union Carbide Corp	Gas Hills	760
Utah Construction & Mining Co	do	2,160
Western Nuclear, Inc	Jeffrey City	2,140

[1] Includes 3,840 tons under contract to United Nuclear Corp. which is treated in the Homestake-Sapin Partners mill under a tolling agreement.

Table 4.—Central-station nuclear power plants, December 31, 1966

Plant status	Number of plants	Electrical capacity, Mw	Startup year
Operable	14	1,886	1957–66
Under construction	4	1,457	1967
Do	2	1,215	1968
Do	4	2,557	1969
Planned	11	7,000	1970
Do	10	8,120	1971
Do	3	2,428	1972
Do	1	1,065	1973
Do	7	5,693	1973–74
Total	56	31,421	

Source: Summarized from AEC publications: Major Activities in the Atomic Energy Programs, January–December 1966 and Nuclear Reactors Built, Being Built, or Planned in the United States, AEC Division of Technical Information, TID–8200 (15th Rev.), Dec. 31, 1966.

Table 5.—Principal published contracts for private uranium sales in 1966

Producer	Purchaser		Delivery date
American Metal Climax, Inc.	General Electric Co.	(1)	1967–68
The Anaconda Company	Nordostschweizerische Kraftwerke (NOK), Switzerland tons	370	1968
Do	Westinghouse Electric Corp. value, millions	$70	1968–75
Homestake-Sapin Partners	Kernkraftwerk-RWE Bayernwerk G.m.b.H, West Germany tons	314	1966–67
Kerr-McGee Corp.	Philadelphia Electric Co. value, millions	$50	1968–73
Do	Commonwealth Edison Co. do	$20	1968–70
United Nuclear Corp.	do tons	[2] 60	1968–70
Utah Construction & Mining Co.	NOK, Switzerland do	375	1967
Do	Oskarshammsverkets Kraftgrupp Aktiebolag, Sweden tons	420	1968
Do	General Electric Co. do	850	1969–70
Western Nuclear, Inc.	Two unnamed utilities do	750	1969–70

[1] Stated as "the bulk of production over the 2-year period, 1967–68.

[2] Contract was for 464 fuel assemblies by United Nuclear Corp., which has a 65 percent interest in Homestake-Sapin Partners.

Table 6.—Principal producers and fabricators of nuclear fuels

Company and principal location	Producers of uranium fuels	Fabricators of uranium fuels	Plutonium capability
Aerojet General Nucleonics, San Ramon, Calif.		X	
Atomics International, Canoga Park, Calif.		X	X
The Babcock & Wilcox Co., Lynchburg, Va.		X	X
Battelle Memorial Institute, Columbus, Ohio		X	X
The Carborundum Co., Niagara Fall, N.Y.		X	X
Combustion Engineering, Inc., Windsor, Conn.	X	X	
General Dynamics Corp., San Diego, Calif.	X	X	
General Electric Co., San Jose, Calif.	X	X	X
Kerr-McGee Corp., Oklahoma City, Okla.	X		
Martin Marietta Corp., Baltimore, Md.		X	
Monsanto Research Corp., Dayton, Ohio			X
National Carbon Co., Lawrenceburg, Tenn.	X		
National Lead Co., Albany, N.Y.	X	X	
Nuclear Fuel Services, Inc., Baltimore, Md.	X	X	X
Nuclear Materials & Equipment Corp., Apollo, Pa.	X	X	X
Nuclear Metals, Inc., Concord, Mass.		X	
United Nuclear Corp., New Haven, Conn.	X	X	X
Westinghouse Electric Corp., Pittsburgh, Pa.		X	

Source: AEC, The Nuclear Industry 1966, Nov. 3, 1966, pp. 41–55.

Table 7.—Free world production of uranium oxide (U_3O_8), by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 ^{p} [2]
Argentina	4	9	37	^{r} 52	^{e} 55
Australia ^{e}	1,300	1,200	420	370	330
Canada	8,430	8,352	7,285	^{r} 4,443	3,822
France	1,978	1,987	^{r} 1,911	^{r} 1,887	^{e} 1,874
Gabon	514	582	586	^{r} 724	^{e} 600
Malagasy Republic ^{e}	111	123	169	^{r} 65	65
Portugal	^{r} 11	^{r} 11	^{r} 22	^{r} 44	^{e} 45
South Africa, Republic of	5,024	4,532	4,445	2,942	3,286
Spain ^{e}	55	55	^{r} 65	^{r} 70	100
Sweden ^{e}	10	10	10	^{r} 10	10
United States	17,010	14,218	11,847	10,442	9,483
Free world total ^{e}	^{r} 34,500	31,100	^{r} 26,800	^{r} 21,100	19,700

^{e} Estimate. ^{p} Preliminary. ^{r} Revised.

[1] Uranium is also believed to be produced in Czechoslovakia, East Germany, West Germany, Hungary, India, Italy, Japan, and U.S.S.R., but production data are not available, and no estimates for these countries have been made.

[2] Compiled from data available April 1967.

Vanadium

Table 1.—Salient vanadium statistics

(Short tons of contained vanadium)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Ore and concentrate:						
Recoverable vanadium [1]	4,150	5,211	3,862	4,362	5,226	5,166
Value thousands	W	$18,605	$13,788	$13,061	$18,284	$22,210
Vanadium pentoxide recovered	4,361	4,750	3,897	5,049	6,160	6,496
Consumption	-----	2,314	2,906	3,550	4,708	5,481
Exports:						
Ferrovanadium and other vanadium alloying materials (gross weight)	129	201	183	103	220	482
Vanadium ores, concentrate, oxides, and vanadates	1,628	1,021	536	1,231	928	886
Imports:						
Ferrovanadium (gross weight)	[2] 15	88	442	466	51	8
Ore and concentrate	[2] 3	-----	-----	[r] 12	-----	72
World: Production	5,958	8,272	7,162	7,833	9,083	9,300

[r] Revised.

W Withheld to avoid disclosing individual company confidential data.

[1] Measured by receipts of uranium and vanadium ores and concentrates at mills plus vanadium recovered from ferrophosphorus derived from domestic phosphate rock.

[2] Average for 2 years only.

Table 2.—Recoverable vanadium of domestic origin produced in the United States, by States

(Short tons of contained vanadium)

State	1957–61 (average)	1962	1963	1964	1965	1966
Colorado	3,330	3,742	3,047	3,312	4,017	3,697
Utah	479	525	382	405	387	353
Arizona and other States [1]	341	944	433	645	822	1,116
Total	4,150	5,211	3,862	4,362	5,226	5,166

[1] Includes Idaho, 1961–66; Montana, 1957; New Mexico, 1957–66; North Dakota, 1965; Oregon, 1964; South Dakota, 1960–66; Wyoming, 1957–58, 1960–66.

Table 3.—Mine production and recoverable vanadium of domestic origin produced in the United States

(Short tons)

Year	Mine production [1]	Recoverable vanadium [2]
1957-61 (average)	7,272	4,150
1962	7,647	5,211
1963	6,047	3,862
1964	5,184	4,362
1965	5,641	5,226
1966	5,685	5,166

[1] Measured by receipts of uranium and vanadium ores and concentrates at mills, vanadium content.

[2] Recoverable vanadium contained in uranium and vanadium ores and concentrates received at mills, plus vanadium recovered from ferrophosphorus derived from domestic phosphate rock.

Table 4.—Production of vanadium pentoxide in the United States

(Short tons)

Year	Gross weight	V_2O_5 content
1957-61 (average)	8,433	7,787
1962	8,955	8,483
1963	7,347	6,959
1964	9,775	9,013
1965	11,498	10,996
1966	11,955	11,595

Table 5.—Vanadium consumed and in stock in the United States in 1966, by type of material

(Short tons of vanadium)

Type of material	Stocks at consumer plants Dec. 31, 1965	Consumption	Stocks at consumer plants Dec. 31, 1966
Ferrovanadium [1]	608	4,511	1,696
Oxide	37	198	47
Ammonium metavanadate	26	160	58
Other [2]	157	612	168
Total	828	5,481	1,969

[1] Includes other vanadium-carbon-iron alloys.

[2] Consists principally of vanadium-aluminum alloy and relatively small quantities of other vanadium alloys and vanadium metal.

Table 6.—Vanadium consumed in the United States in 1966, by uses

Use	Short tons
Steel:	
High-speed	501
Hot-work tool	99
Other tool	173
Stainless	38
Other alloy [1]	2,950
Carbon	818
Total steel	4,579
Gray and malleable castings	40
Nonferrous alloys [2]	594
Chemicals	183
Other [3]	85
Grand total	5,481

[1] Includes some vanadium used in high-speed or other tool steels not specified by reporting firms.

[2] Principally titanium-base alloys.

[3] Principally high-temperature alloys, welding rods, and cutting and wear-resistant materials.

Table 7.—U.S. exports of vanadium, by countries

(Thousand pounds)

Destination	Ferrovanadium and other vanadium alloying materials containing over 6 percent vanadium (gross weight)		Vanadium ore, concentrate, pentoxide, vanadic acid, vanadium oxide, and vanadates (except chemically pure grade) (vanadium content)	
	1965	1966	1965	1966
North America:				
Bahamas	-----	(1)	-----	-----
Canada	386	654	51	31
Mexico	39	95	-----	13
Total	425	749	51	44
South America:				
Brazil	2	22	-----	-----
Chile	-----	7	-----	10
Colombia	-----	-----	6	-----
Venezuela	-----	-----	-----	3
Total	2	29	6	13
Europe:				
Austria	-----	-----	496	329
Belgium-Luxembourg	-----	-----	106	111
Czechoslovakia	-----	-----	145	164
Denmark	-----	-----	-----	8
France	-----	-----	218	70
Germany, West	10	33	190	52
Italy	-----	86	(1)	-----
Netherlands	-----	27	45	174
Spain	-----	37	6	-----
Sweden	-----	-----	118	201
United Kingdom	(1)	3	60	8
Total	10	186	1,384	1,117
Africa: South Africa, Republic of	-----	-----	(1)	-----
Asia:				
India	2	-----	(1)	-----
Japan	-----	-----	412	560
Korea, South	-----	-----	1	-----
Pakistan	-----	-----	(1)	-----
Taiwan	-----	-----	2	1
Total	2	-----	415	561
Oceania: Australia	1	-----	(1)	36
Grand total:				
Quantity	440	964	1,856	1,771
Value (thousands)	$747	$2,209	$3,540	$4,226

[1] Less than ½ unit.

Table 8.—U.S. imports of ferrovanadium, by countries

(Thousand pounds and thousand dollars)

Country	General imports [1]				Imports for consumption [2]			
	1965		1966		1965		1966	
	Gross weight	Value	Gross weight	Value	Gross weight	Value	Gross weight	Value
Austria	88	$100	-----	-----	40	$53	-----	-----
Belgium-Luxembourg	14	21	-----	-----	12	20	-----	-----
Germany, West	-----	-----	16	$38	-----	-----	16	$38
U.S.S.R. [3]	-----	-----	33	35	-----	-----	-----	-----
Total	102	121	49	73	52	73	16	38

[1] Comprises ferrovanadium received in the United States; part for immediate consumption and remainder entering bonded warehouses.

[2] Comprises ferrovanadium received for immediate consumption plus material withdrawn from bonded warehouses.

[3] Apparently reexported to Canada.

Table 9.—World production of vanadium in ores and concentrates, by countries

(Short tons)

Country	1962	1963	1964	1965	1966 p [1]
Argentina	15	3	3	-----	NA
Finland	629	771	1,084	r 1,062	1,070
Mexico	-----	-----	-----	1	NA
South Africa, Republic of	1,393	1,392	1,282	1,519	1,711
South-West Africa (recoverable vanadium)	1,019	1,134	r 1,102	1,275	1,353
United States (recoverable vanadium)	5,211	3,862	4,362	5,226	5,166
Zambia	3	-----	-----	-----	-----
World total e	8,272	7,162	r 7,833	r 9,083	9,300

e Estimate. p Preliminary. r Revised. NA Not available.

[1] Compiled mostly from data available May 1967.

Zinc

Table 1.—Salient zinc statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Domestic ores, recoverable content…short tons	453,772	505,491	529,254	574,858	611,153	572,558
Value…thousands	$104,870	$116,413	$122,533	$156,308	$178,284	$166,044
Slab zinc:						
From domestic ores short tons	396,352	448,095	474,007	531,967	551,215	523,580
From foreign ores…do	446,052	431,300	418,577	422,117	443,187	501,486
From scrap…do	60,174	58,880	60,303	71,596	83,619	83,263
Total…do	902,578	938,275	952,887	1,025,680	1,078,021	1,108,329
Secondary zinc [1]	195,349	203,800	208,715	227,713	271,694	277,967
Exports of slab zinc…do	29,937	36,102	33,853	26,515	5,989	1,406
Imports (general):						
Ores (zinc content)…do	472,109	467,398	372,769	357,145	428,040	521,320
Slab zinc…do	173,900	141,957	144,757	118,340	152,990	278,175
Stocks, December 31:						
At producer plants…do	165,766	144,746	47,910	31,178	28,622	64,798
At consumer plants…do	90,773	79,934	97,475	108,411	[r] 150,763	129,466
Consumption:						
Slab zinc…do	913,848	1,031,821	1,105,113	1,207,268	1,354,092	1,410,197
All classes…do	1,203,708	1,333,311	1,414,216	1,535,751	1,742,067	1,806,548
Price, Prime Western, East St. Louis…cents per pound	11.53	11.63	12.01	13.57	14.50	14.50
World:						
Production:						
Mine…short tons	3,561,000	3,930,000	4,050,000	4,420,000	4,695,000	4,920,000
Smelter…do	3,255,000	3,755,000	3,850,000	4,090,000	4,280,000	4,405,000
Price: Prime Western, London cents per pound	9.90	8.43	9.60	14.74	14.12	12.75

[r] Revised.

[1] Excludes redistilled slab zinc.

Table 2.—Mine production of recoverable zinc in the United States, by States

(Short tons)

State	1957–61 (average)	1962	1963	1964	1965	1966
Arizona	33,032	32,888	25,419	24,690	21,757	15,985
Arkansas	27	211	-------	-------	-------	-------
California	773	322	101	143	225	335
Colorado	38,689	43,351	48,109	53,682	53,870	54,822
Idaho	51,670	62,865	63,267	59,298	58,034	60,997
Illinois	26,057	27,413	20,337	13,800	18,314	15,192
Kansas	5,172	3,943	3,508	4,665	6,508	4,769
Kentucky	957	1,172	1,461	2,063	5,654	6,586
Missouri	2,415	2,792	321	1,501	4,312	3,968
Montana	26,884	37,678	32,941	29,059	33,786	29,120
Nevada	1,295	281	571	582	3,858	5,827
New Jersey	2,650	15,309	32,738	32,926	38,297	25,237
New Mexico	16,604	22,015	12,938	29,833	36,460	29,296
New York	56,453	53,654	53,495	60,754	69,880	73,454
North Carolina	(1)	-------	13	-------	-------	-------
Oklahoma	5,349	10,013	13,245	12,159	12,715	11,237
Oregon	1	-------	3	W	W	-------
Pennsylvania	12,941	24,308	27,389	30,754	27,635	28,080
Tennessee	76,051	71,548	95,847	115,943	122,387	103,117
Utah	38,753	34,313	36,179	31,428	27,747	37,323
Virginia	22,187	26,479	23,988	21,004	20,491	17,666
Washington	20,288	21,644	22,270	24,296	22,230	24,772
Wisconsin	15,525	13,292	15,114	26,278	26,993	24,775
Total	453,773	505,491	529,254	574,858	611,153	572,558

W Withheld to avoid disclosing individual company confidential data; excluded from total.

[1] Less than ½ unit.

Table 3.—Mine production of recoverable zinc in the United States, by months

(Short tons)

Month	1965	1966	Month	1965	1966
January	50,063	49,132	August	50,780	49,771
February	48,860	48,764	September	51,466	45,490
March	54,887	53,943	October	51,673	44,066
April	53,186	50,014	November	51,574	43,940
May	48,698	51,650	December	50,106	42,006
June	51,694	47,928			
July	48,166	45,854	Total	611,153	572,558

Table 4.—Twenty-five leading zinc-producing mines in the United States in 1966 in order of output

Rank	Mine	State	County	Operator	Source of zinc
1	Balmat	New York	St. Lawrence	St. Joseph Lead Co.	Lead-zinc ore.
2	Friedensville	Pennsylvania	Lehigh	The New Jersey Zinc Co	Zinc ore.
3	Sterling Hill	New Jersey	Sussex	do	Do.
4	Eagle	Colorado	Eagle	do	Do.
5	Butte Hill Zinc Mines	Montana	Silver Bow	The Anaconda Company.	Do.
6	Bunker Hill	Idaho	Shoshone	The Bunker Hill Co.	Lead-zinc ore.
7	Young	Tennessee	Jefferson	American Zinc Company of Tennessee.	Zinc ore.
8	Zinc Mine Works	do	do	United States Steel Corp.	Do.
9	Star-Morning	Idaho	Shoshone	Hecla Mining Co.	Lead-zinc ore.
10	Austinville and Ivanhoe.	Virginia	Wythe	The New Jersey Zinc Co.	Do.
11	Edwards	New York	St. Lawrence	St. Joseph Lead Co.	Zinc ore.
12	Idarado	Colorado	Ouray and San Miguel.	Idarado Mining Co.	Copper-lead-zinc ore.
13	U.S. and Lark	Utah	Salt Lake	United States Smelting, Refining and Mining Co.	Lead-zinc, lead ores.
14	New Market	Tennessee	Jefferson	New Market Zinc Co.	Zinc ore.
15	Iron King	Arizona	Yavapai	Shattuck Denn Mining Corp.	Lead-zinc ore.
16	Jefferson City	Tennessee	Jefferson	The New Jersey Zinc Co.	Zinc ore.
17	Pend Oreille	Washington	Pend Oreille	Pend Oreille Mines & Metals Co.	Lead-zinc ore.
18	Page	Idaho	Shoshone	American Smelting and Refining Co.	Do.
19	Copperhill	Tennessee	Polk	Tennessee Copper Co.	Copper-zinc ore.
20	Flat Gap	do	Hancock	The New Jersey Zinc Co.	Zinc ore.
21	Van Stone	Washington	Stevens	American Smelting and Refining Co.	Do.
22	Mascot No. 2	Tennessee	Knox	American Zinc Company of Tennessee.	Do.
23	Shullsburg	Wisconsin	Lafayette	The Eagle-Picher Co.	Do.
24	Hanover	New Mexico	Grant	The New Jersey Zinc Co.	Do.
25	Burgin	Utah	Utah	Kennecott Copper Corp	Lead-zinc ore.

Table 5.—Primary and redistilled secondary slab zinc produced in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Primary:						
From domestic ores	396,352	448,095	474,007	531,967	551,215	523,580
From foreign ores	446,052	431,300	418,577	422,117	443,187	501,486
Total	842,404	879,395	892,584	954,084	994,402	1,025,066
Redistilled secondary	60,174	58,880	60,303	71,596	83,619	83,263
Total (excludes zinc recovered by remelting)	902,578	938,275	952,887	1,025,680	1,078,021	1,108,329

Table 6.—Distilled and electrolytic zinc, primary and secondary, produced in the United States, by methods of reduction

(Short tons)

Method of reduction	1957-61 (average)	1962	1963	1964	1965	1966
Electrolytic primary	332,184	354,138	358,093	389,383	408,128	433,576
Distilled	510,220	525,257	534,491	564,701	586,274	591,490
Redistilled secondary:						
At primary smelters	32,658	41,732	47,214	57,546	70,306	71,560
At secondary smelters	27,516	17,148	13,089	14,050	13,313	11,703
Total	902,578	938,275	952,887	1,025,680	1,078,021	1,108,329

Table 7.—Distilled and electrolytic zinc, primary and secondary, produced in the United States, by grades

(Short tons)

Grade	1957-61 (average)	1962	1963	1964	1965	1966
Special High Grade	338,893	392,901	411,254	468,748	479,736	452,722
High Grade	94,359	94,185	104,301	112,056	112,451	139,814
Intermediate	20,071	14,101	18,372	19,050	17,985	23,555
Brass Special	78,925	75,951	98,190	81,034	86,695	103,184
Select	787	130	3,909	326	309	-----
Prime Western	369,543	361,007	316,861	344,466	380,845	389,054
Total	902,578	938,275	952,887	1,025,680	1,078,021	1,108,329

Table 8.—Primary slab zinc produced in the United States, by States where smelted

(Short tons)

State	1957-61 (average)	1962	1963	1964	1965	1966
Arkansas	14,172	14,446	11,143	-----	-----	-----
Idaho	57,332	76,756	81,296	91,761	91,000	90,983
Illinois [1]	91,990	99,055	108,971	114,866	114,131	96,809
Montana	135,418	129,144	118,090	125,334	143,927	174,821
Oklahoma	151,611	147,384	142,707	150,356	154,187	165,162
Pennsylvania and West Virginia	212,254	234,038	248,584	262,981	278,870	291,403
Texas	179,627	178,572	181,793	208,786	212,287	205,888
Total	842,404	879,395	892,584	954,084	994,402	1,025,066
Value (thousand)	$194,357	$201,733	$206,187	$260,274	$290,763	$301,164

[1] Includes production for Missouri for 1957 and 1960.

Table 9.—Primary slab zinc plants by group capacity in the United States in 1966

Type of plant	Plant location	Slab zinc capacity (short tons)
Electrolytic plants:		
American Smelting and Refining Company	Corpus Christi, Tex	519,000
American Zinc Co. of Illinois	Monsanto, Ill	
The Anaconda Company	Anaconda, Mont	
Do	Great Falls, Mont	
The Bunker Hill Co	Kellogg, Idaho	
Horizontal-retort plants:		
American Smelting and Refining Company	Amarillo, Tex	724,333
American Zinc Co. of Illinois	Dumas, Tex	
Blackwell Zinc Co., Division of American Metal Climax, Inc	Blackwell, Okla	
The Eagle-Picher Co	Henryetta, Okla	
Matthiessen & Hegeler Zinc Co.[1]	LaSalle, Ill	
National Zinc Co	Bartlesville, Okla	
Vertical-retort plants:		
Matthiessen & Hegeler Zinc Co	Meadowbrook, W. Va	
The New Jersey Zinc Co	Depue, Ill	
Do	Palmerton, Pa	
St. Joseph Lead Co	Josephtown, Pa	

[1] Plant closed July 1, 1961.

Table 10.—Secondary slab zinc plants by group capacity in the United States in 1966

Company	Plant location	Slab zinc capacity (short tons)
American Smelting and Refining Company	Sand Springs, Okla	49,900
Do	Trenton, N. J	
American Zinc Co of Illinois	Hillsboro, Ill	
Apex Smelting Co	Chicago, Ill	
Arco Die Cast Metals Co	Detroit, Mich	
W. J. Bullock, Inc	Fairfield, Ala	
General Smelting Co	Bristol, Pa	
Gulf Reduction Co	Houston, Tex	
H. Kramer Co	El Segundo, Calif	
Pacific Smelting Co	Torrance, Calif	
Sandoval Zinc Co	Sandoval, Ill	
Superior Zinc Corp	Bristol, Pa	
Wheeling Steel Corp	Martins Ferry, Ohio	

Table 11.—Stocks and consumption of new and old zinc scrap in the United States in 1966

(Short tons)

Class of consumer and type of scrap	Stocks Jan. 1 [1]	Receipts	Consumption			Stocks Dec. 31
			New scrap	Old scrap	Total	
Smelters and distillers:						
New clippings	113	1,146	1,081	-----	1,081	178
Old zinc	625	4,221	-----	4,469	4,469	377
Engravers' plates	218	3,662	-----	3,523	3,523	357
Skimmings and ashes	13,402	68,785	70,478	-----	70,478	11,709
Sal skimmings	178	150	138	-----	138	190
Die-cast skimmings	1,122	4,786	5,078	-----	5,078	830
Galvanizers' dross	5,248	72,458	68,527	-----	68,527	9,179
Diecastings	3,738	41,919	-----	40,825	40,825	4,832
Rod and die scrap	275	4,565	-----	4,283	4,283	557
Flue dust	350	9,553	9,260	-----	9,260	643
Chemical residues	509	10,568	9,841	-----	9,841	1,236
Total	25,778	221,813	164,403	53,100	217,503	30,088
Chemical plants, foundries and other manufacturers:						
New clippings	-----	5	5	-----	5	-----
Old zinc	8	13	-----	12	12	9
Engravers' plates	-----	-----	-----	-----	-----	-----
Skimmings and ashes	1,846	13,720	12,338	-----	12,338	3,228
Sal skimmings	4,072	10,191	8,900	-----	8,900	5,363
Die-cast skimmings	-----	-----	-----	-----	-----	-----
Galvanizers' dross	-----	-----	-----	-----	-----	-----
Diecastings	1,146	1,366	-----	2,493	2,493	19
Rod and die scrap	2	134	-----	76	76	60
Flue dust	13	37	32	-----	32	18
Chemical residues	993	22,552	21,485	-----	21,485	2,060
Total	8,080	48,018	42,760	2,581	45,341	10,757
All classes of consumers:						
New clippings	113	1,151	1,086	-----	1,086	178
Old zinc	633	4,234	-----	4,481	4,481	386
Engravers' plates	218	3,662	-----	3,523	3,523	357
Skimmings and ashes	15,248	82,505	82,816	-----	82,816	14,937
Sal skimmings	4,250	10,341	9,038	-----	9,038	5,553
Die-cast skimmings	1,122	4,786	5,078	-----	5,078	830
Galvanizers' dross	5,248	72,458	68,527	-----	68,527	9,179
Diecastings	4,884	43,285	-----	43,318	43,318	4,851
Rod and die scrap	277	4,699	-----	4,359	4,359	617
Flue dust	363	9,590	9,292	-----	9,292	661
Chemical residues	1,502	33,120	31,326	-----	31,326	3,296
Total	33,858	269,831	207,163	55,681	262,844	40,845

[1] Figures partly revised.

Table 12.—Production of zinc products from zinc-base scrap in the United States

(Short tons)

Product	1957–61 (average)	1962	1963	1964	1965	1966
Redistilled slab zinc	60,174	[1] 58,880	60,303	71,596	83,619	83,263
Zinc dust	24,522	24,863	23,749	29,742	33,512	34,326
Remelt spelter	5,100	3,540	3,740	3,646	5,324	6,970
Remelt die-cast slab	10,761	10,834	10,168	8,934	14,760	13,003
Zinc-die and diecasting alloys	6,245	5,531	5,894	5,116	5,463	4,333
Galvanizing stocks	215	369	611	1,684	1,450	1,585
Rolled zinc	49	14	4	-----	-----	-----
Secondary zinc in chemical products	35,939	36,331	35,210	36,130	47,997	39,834

[1] Includes redistilled slab made from remelt die-cast slab.

Table 13.—Zinc recovered from scrap processed in the United States, by kind of scrap and form of recovery

(Short tons)

Kind of scrap	1965	1966	Form of recovery	1965	1966
New scrap:			As metal:		
Zinc-base	140,871	139,151	By distillation:		
Copper-base	127,276	131,476	Slab zinc [1]	81,670	82,244
Aluminum-base	2,916	3,000	Zinc dust	32,976	33,811
Magnesium-base	292	299	By remelting	6,611	8,317
Total	271,355	273,926	Total	121,257	124,372
Old scrap:			In zinc-base alloys	18,934	16,231
Zinc-base	43,603	45,990	In brass and bronze	158,063	172,098
Copper-base	34,777	36,139	In aluminum-base alloys	6,613	7,147
Aluminum-base	3,524	4,000	In magnesium-base alloys	500	529
Magnesium-base	105	156	In chemical products:		
			Zinc oxide (lead-free)	27,232	16,500
Total	82,009	86,285	Zinc sulfate	9,059	10,136
			Zinc chloride	11,405	12,896
Grand total	353,364	360,211	Miscellaneous	301	302
			Total	232,107	235,839
			Grand total	353,364	360,211

[1] Includes zinc content of redistilled slab made from remelt die-cast slab.

Table 14.—Zinc dust produced in the United States

Year	Short tons	Value	
		Total	Average per pound
1957–61 (average)	30,309	$9,130,082	$0.151
1962	40,978	12,539,268	.153
1963	40,362	12,592,944	.156
1964	45,979	15,724,818	.171
1965	51,958	19,328,376	.186
1966	55,485	20,418,480	.184

Table 15.—Consumption of zinc in the United States

(Short tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Slab zinc	913,848	1,031,821	1,105,113	1,207,268	1,354,092	1,410,197
Ores (recoverable zinc content)	99,769	[1] 101,582	[1] 104,705	[1] 105,948	[1] 122,892	[1] 126,696
Secondary (recoverable zinc content) [2]	190,091	199,908	204,398	222,535	265,083	269,650
Total	1,203,708	1,333,311	1,414,216	1,535,751	1,742,067	1,806,543

[1] Includes ore used directly in galvanizing.
[2] Excludes redistilled slab and remelt zinc.

Table 16.—Slab zinc consumption in the United States, by industry use

(Short tons)

Industry and product	1957–61 (average)	1962	1963	1964	1965	1966
Galvanizing:						
Sheet and strip	189,093	213,970	238,919	257,328	270,826	264,812
Wire and wire rope	36,116	38,203	39,466	42,793	43,884	39,114
Tubes and pipe	61,850	54,003	56,563	62,166	63,224	68,848
Fittings (for tube and pipe)	8,981	8,039	7,787	8,802	8,641	10,150
Tanks and containers	NA	NA	NA	NA	NA	4,285
Structural shapes	NA	NA	NA	NA	NA	17,838
Fasteners	NA	NA	NA	NA	NA	4,340
Pole-line hardware	NA	NA	NA	NA	NA	11,400
Fencing, wire cloth, and netting	NA	NA	NA	NA	NA	15,821
Job galvanizing	30,176	34,871	39,223	44,354	51,011	NA
Other unspecified uses	46,520	39,484	38,329	40,893	44,835	59,859
Total	372,736	388,570	420,287	456,336	482,421	495,967
Brass products:						
Sheet, strip, and plate	53,392	61,210	61,462	64,701	58,864	97,095
Rod and wire	35,511	41,875	43,517	47,246	45,510	60,079
Tube	10,408	10,627	10,786	10,402	10,030	12,148
Castings and billets	4,794	4,923	3,969	3,258	3,050	3,378
Copper-base ingots	9,388	10,884	7,784	8,565	7,402	9,352
Other copper-base products	625	286	719	923	1,992	3,500
Total	114,118	129,805	128,237	135,095	126,848	185,552
Zinc-base alloy:						
Die casting alloy	344,987	419,042	462,543	517,354	629,809	596,371
Dies and rod alloy	4,873	850	720	604	535	495
Slush and sand casting alloy	2,608	3,716	5,356	6,624	7,626	9,170
Total	352,468	423,608	468,619	524,582	637,970	606,036
Rolled zinc	40,947	42,233	42,166	44,181	45,882	52,612
Zinc oxide	17,147	18,517	16,037	19,991	25,781	28,438
Other uses:						
Wet batteries	1,127	1,133	1,216	1,168	1,188	1,529
Desilverizing lead	2,486	2,302	2,095	2,393	2,444	2,776
Light-metal alloys	3,901	4,920	5,660	4,769	8,124	10,239
Other [1]	8,918	20,733	20,796	18,753	23,434	27,048
Total	16,432	29,088	29,767	27,083	35,190	41,592
Grand total	913,848	1,031,821	1,105,113	1,207,268	1,354,092	1,410,197

NA Not available.

[1] Includes zinc used in making zinc dust, bronze powder, alloys, chemicals, castings, and miscellaneous uses not elsewhere mentioned.

Table 17.—Slab zinc consumption in the United States in 1966, by grades and industry use

(Short tons)

Industry	Special High Grade	High Grade	Intermediate	Brass Special	Select	Prime Western	Remelt	Total
Galvanizing	29,757	35,971	1,562	111,981	664	311,618	4,414	495,967
Brass and bronze	43,888	93,538	157	5,709	2,868	37,669	1,723	185,552
Zinc-base alloys	600,107	2,067	179	---	---	2,528	1,155	606,036
Rolled zinc	22,027	14,410	5,600	10,575	---	---	---	52,612
Zinc oxide	8,057	---	---	---	---	20,381	---	28,438
Other	22,186	2,989	187	9,735	---	6,404	91	41,592
Total	726,022	148,975	7,685	138,000	3,532	378,600	7,383	1,410,197

Table 18.—Rolled zinc produced and quantity available for consumption in the United States

	1965			1966		
		Value			Value	
	Short tons	Total	Average per pound	Short tons	Total	Average per pound
Production:[1]						
Photoengraving plate	12,320	$5,779,667	$0.234	12,378	$7,277,518	$0.294
Other plate over 0.375 inch thick	W	W	W	W	W	W
Sheet zinc less than 0.375 inch thick	W	W	W	W	W	W
Strip and foil	28,712	12,944,086	.225	34,670	15,581,246	.225
Rod and wire	W	W	W	W	W	W
Total rolled zinc	44,724	21,125,010	.236	51,424	25,773,635	.251
Imports	1,381	453,000	.164	1,708	670,000	.196
Exports	5,120	3,051,000	.298	4,921	3,198,000	.325
Available for consumption	41,197	---	---	48,222	---	---
Value of slab zinc (all grades)	---	---	.146	---	---	.147
Value added by rolling	---	---	.090	---	---	.104

W Withheld to avoid disclosing individual company confidential data.

[1] Figures represent net production. In addition, 17,023 tons in 1965 and 21,061 tons in 1966 were rerolled from scrap originating in fabricating plants operating in connection with zinc rolling mills.

Table 19.—Slab zinc consumption in the United States in 1966, by industries and States

(Short tons)

State	Galvanizers	Brass mills [1]	Die casters [2]	Other [3]	Total
Alabama	39,181	W	-----	W	40,581
Arizona	W	-----	-----	W	W
Arkansas	-----	-----	-----	W	W
California	35,332	3,796	11,677	1,882	52,687
Colorado	W	W	W	-----	4,425
Connecticut	3,528	56,439	W	W	64,652
Delaware	W	W	-----	-----	451
Florida	2,725	-----	W	-----	W
Georgia	W	-----	W	-----	W
Hawaii	W	-----	-----	-----	W
Idaho	-----	-----	W	W	W
Illinois	47,721	28,591	92,339	W	191,779
Indiana	65,385	W	48,010	W	150,678
Iowa	851	-----	-----	W	W
Kansas	-----	W	W	-----	W
Kentucky	W	W	-----	W	15,248
Louisiana	1,578	-----	-----	-----	1,578
Maine	W	-----	-----	-----	W
Maryland	W	W	-----	W	33,160
Massachusetts	3,558	W	-----	W	8,207
Michigan	4,476	20,506	151,123	W	178,720
Minnesota	3,115	W	-----	W	W
Mississippi	W	-----	-----	-----	W
Missouri	7,590	W	7,980	W	16,754
Nebraska	860	W	-----	W	2,526
New Hampshire	-----	W	-----	-----	W
New Jersey	3,352	7,552	W	3,284	W
New York	4,790	W	66,240	W	91,908
North Carolina	W	-----	W	-----	1,228
Ohio	102,684	W	96,874	1,544	W
Oklahoma	3,845	-----	W	W	8,343
Oregon	662	W	W	W	1,016
Pennsylvania	75,397	W	21,661	W	153,995
Rhode Island	592	W	-----	W	625
Tennessee	807	-----	W	W	3,060
Texas	14,642	W	W	W	50,899
Utah	354	W	-----	-----	W
Virginia	383	W	W	W	2,031
Washington	1,297	-----	-----	W	2,455
West Virginia	12,187	W	-----	W	15,032
Wisconsin	1,650	W	8,945	W	20,528
Undistributed	53,011	66,945	100,032	115,841	290,248
Total [4]	491,553	183,829	604,881	122,551	1,402,814

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Includes brass mills, brass ingot makers, and brass foundries.

[2] Includes producers of zinc-base alloy for diecastings, stamping dies, and rods.

[3] Includes slab zinc used in rolled zinc products and in zinc oxide.

[4] Excludes remelt zinc.

Table 20.—Production and shipments of zinc pigments and compounds [1] in the United States

Pigment or compound	1965				1966			
	Production (short tons)	Shipments			Production (short tons)	Shipments		
		Short tons	Value [2]			Short tons	Value [2]	
			Total	Average per ton			Total	Average per ton
Zinc oxide [3]	187,829	186,570	$48,751,733	$261	202,806	193,665	$52,230,204	$270
Leaded zinc oxide [3]	12,554	11,850	3,736,226	315	10,662	11,557	3,038,171	263
Zinc chloride, 50° B [4]	52,635	54,296	W	W	58,436	56,461	W	W
Zinc sulfate	53,104	50,544	7,340,632	145	53,328	51,698	7,936,753	154

W Withheld to avoid disclosing individual company confidential data.

[1] Excludes lithopone; figure withheld to avoid disclosing individual company confidential data.

[2] Value at plant, exclusive of container.

[3] Zinc oxide containing 5 percent or more lead is classed as leaded zinc oxide.

[4] Includes zinc chloride equivalent of zinc ammonium chloride and chromated zinc chloride.

Table 21.—Zinc content of zinc pigments [1] and compounds produced by domestic manufacturers, by sources

(Short tons)

Pigment or compound	1965					1966				
	Zinc in pigments and compounds produced from—				Total zinc in pigments and compounds	Zinc in pigments and compounds produced from—				Total zinc in pigments and compounds
	Ore		Slab zinc	Secondary material		Ore		Slab zinc	Secondary material	
	Domestic	Foreign				Domestic	Foreign			
Zinc oxide	80,399	19,054	25,782	24,683	149,918	76,851	28,140	28,438	28,546	161,975
Leaded zinc oxide	4,942	2,854	---	---	7,796	4,269	2,294	---	---	6,563
Total	85,341	21,908	25,782	24,683	157,714	81,120	30,434	28,438	28,546	168,538
Zinc chloride [2]	---	---	W	W	12,740	---	---	W	W	14,141
Zinc sulfate	W	W	---	9,059	17,925	W	W	---	9,725	17,911

W Withheld to avoid disclosing individual company confidential data.

[1] Excludes zinc sulfide and lithopone; figures withheld to avoid disclosing individual company confidential data.

[2] Includes zinc content of zinc ammonium chloride and chromated zinc chloride.

Table 22.—Distribution of zinc oxide and leaded zinc oxide shipments, by industries

(Short tons)

Industry	1957–61 (average)	1962	1963	1964	1965	1966
Zinc oxide:						
Rubber	75,216	80,247	82,776	93,568	103,057	104,866
Paints	32,333	31,381	34,382	31,176	30,249	27,100
Ceramics	9,588	11,092	9,381	9,447	10,009	12,147
Chemicals	NA	NA	NA	NA	11,365	18,678
Agriculture	NA	NA	NA	NA	977	1,559
Photocopying	NA	NA	NA	NA	W	11,405
Coated fabrics and textiles [1]	2,118	202	W	W	W	W
Floor covering	1,183	457	W	438	363	W
Other and unspecified	25,858	31,470	35,732	39,674	30,550	22,910
Total	146,296	154,849	162,271	174,303	186,570	193,665
Leaded zinc oxide:						
Paints	20,364	14,959	14,899	13,124	10,951	10,402
Rubber Other and unspecified	1,116	735	574	489	899	1,087
Total	21,480	15,694	15,473	13,613	11,850	11,489

W Withheld to avoid disclosing individual company confidential data, included with "Other."
NA Not available.

[1] Figures for 1959–62 for rayon withheld to avoid disclosing individual company confidential data.

Table 23.—Distribution of zinc sulfate shipments, by industries

(Short tons)

Year	Rayon		Agriculture		Other		Total	
	Gross weight	Dry basis	Gross weight	Dry basis	Gross weight	Dry basis	Gross weight	Dry basis
1957–61 (average)	18,754	16,798	7,320	6,342	7,069	6,178	33,143	29,318
1962	W	W	8,544	7,313	22,687	20,359	31,231	27,672
1963	W	W	10,785	9,407	29,326	23,674	40,111	33,081
1964	18,066	16,103	11,248	9,807	17,292	11,231	46,606	37,141
1965	21,204	18,886	14,331	12,449	15,009	10,637	50,544	41,972
1966	18,659	16,562	19,334	16,891	13,705	9,372	51,698	42,825

W Withheld to avoid disclosing individual company confidential data, included with "Other."

Table 24.—U.S. exports of zinc pigments

Kind	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Zinc oxide	2,660	$818	3,633	$1,089
Lithopone	609	187	3,017	644
Total	3,269	1,005	6,650	1,733

Table 25.—U.S. imports for consumption of zinc pigments and compounds

Kind	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Zinc oxide	11,596	$2,319	14,492	$2,787
Zinc sulfide	392	120	363	119
Lithopone	190	34	182	33
Zinc chloride	1,099	186	1,594	266
Zinc sulfate	2,817	305	1,616	177
Zinc cyanide	60	46	100	73
Zinc compounds, n.s.p.f.	1,577	472	302	178
Total	17,731	3,482	18,649	3,633

Table 26.—Stocks for zinc at zinc-reduction plants in the United States, Dec. 31

(Short tons)

	1962	1963	1964	1965	1966
At primary reduction plants	142,059	46,374	30,680	27,635	63,626
At secondary distilling plants	2,687	1,536	498	987	1,172
Total	144,746	47,910	31,178	28,622	64,798

Table 27.—Consumer stocks of slab zinc at plants, Dec. 31, by industries

(Short tons)

Date	Galvanizers	Brass mills [1]	Zinc diecasters [2]	Zinc rolling mills	Oxide plants	Other	Total [3]
Dec. 31, 1965	r 80,001	r 19,484	r 42,903	4,588	444	r 3,343	r 150,763
Dec. 31, 1966	71,220	15,642	35,703	3,371	463	3,067	129,466

r Revised.

[1] Includes brass mills, brass ingot makers, and foundries.

[2] Includes producers of zinc-base alloy for diecastings, stamping dies, and rods.

[3] Stocks on Dec. 31, 1965, and Dec. 31, 1966, include 372 and 261 tons, respectively, of remelt spelter.

Table 28.—Average monthly quoted prices of 60-percent zinc concentrate at Joplin, and common zinc (prompt delivery or spot), East St. Louis and London [1]

Month	1965			1966		
	60-percent zinc concentrates in the Joplin region (per ton)	Metallic zinc (cents per pound)		60-percent zinc concentrates in the Joplin region (per ton)	Metallic zinc (cents per pound)	
		East St. Louis	London [2] [3]		East St. Louis	London [2] [3]
January	$92.00	14.50	14.62	$92.00	14.50	13.73
February	92.00	14.50	14.53	92.00	14.50	13.60
March	92.00	14.50	14.33	92.00	14.50	13.64
April	92.00	14.50	14.33	92.00	14.50	12.64
May	92.00	14.50	14.69	92.00	14.50	12.25
June	92.00	14.50	14.26	92.00	14.50	12.32
July	92.00	14.50	14.08	92.00	14.50	12.00
August	92.00	14.50	13.78	92.00	14.50	12.02
September	92.00	14.50	13.59	92.00	14.50	12.27
October	92.00	14.50	13.96	92.00	14.50	12.52
November	92.00	14.50	13.55	92.00	14.50	13.07
December	92.00	14.50	13.74	92.00	14.50	12.95
Average for year	92.00	14.50	14.12	92.00	14.50	12.75

[1] Joplin: Metal Statistics, 1967. East St. Louis: Metal Statistics, 1967. London: E&MJ Metal and Mineral Markets.

[2] Conversion of English quotations into U.S. money based on average rates of exchange recorded by Federal Reserve Board.

[3] Average of daily mean of bid and asked quotations at morning session of London Metal Exchange.

Table 29.—Average price received by producers of zinc, by grades

(Cents per pound)

Grade	1962	1963	1964	1965	1966
Special High Grade	11.43	11.66	14.17	15.05	14.93
High Grade	11.47	11.61	13.64	14.55	14.63
Intermediate	11.84	11.79	14.03	14.70	14.85
Brass Special	11.76	11.80	13.90	14.62	15.02
Select	12.88	11.29	13.55	14.88	-----
Prime Western	11.45	11.35	12.97	14.16	14.36
All Grades	11.47	11.55	13.64	14.62	14.69
Prime Western; spot quotation at St. Louis [1]	11.63	12.01	13.57	14.50	14.50

[1] Metal Statistics, 1967.

Table 30.—U.S. exports of slab and sheet zinc, by countries

(Short tons)

Destination	Slabs, pigs, and blocks				Sheets, plates, strips, or other forms, n.e.s.			
	1963	1964	1965	1966	1963	1964	1965	1966
North America:								
Canada	337	53	211	191	1,541	2,652	2,144	2,059
Mexico	---	216	1	29	25	23	19	18
Other	16	51	20	6	60	88	108	76
Total	353	320	232	226	1,626	2,763	2,271	2,153
South America:								
Argentina	---	51	(1)	---	48	30	18	29
Brazil	128	---	789	61	15	25	42	44
Chile	163	331	172	69	35	42	60	102
Colombia	663	565	23	21	37	53	33	49
Venezuela	13	325	100	512	86	111	92	332
Other	1	1	4	26	12	28	47	26
Total	968	1,273	1,088	689	233	289	292	582
Europe:								
Belgium-Luxembourg	---	---	---	---	34	34	12	---
Denmark	---	55	---	---	230	180	74	48
Germany, West	14	224	2	1	59	1,172	1,572	773
Italy	---	---	---	1	113	124	38	33
Netherlands	---	---	---	---	123	186	59	48
Spain	---	---	49	47	47	128	47	21
Sweden	---	---	---	---	227	215	29	22
Switzerland	---	---	---	---	205	152	5	20
United Kingdom	---	4,837	1	2	261	254	168	148
Other	---	736	3	4	322	473	136	85
Total	14	5,852	55	55	1,621	2,918	2,140	1,198
Africa:								
South Africa, Republic of	---	---	62	---	89	104	114	149
Other	78	448	49	4	6	32	3	28
Total	78	448	111	4	95	136	117	177
Asia:								
India	30,155	13,066	1,822	4	16	28	10	3
Japan	147	662	31	---	---	2	1	---
Korea, South	1,969	1,900	1,858	---	8	81	---	1
Philippines	6	938	225	---	31	60	33	30
Viet-Nam, South	1	---	---	46	---	---	---	664
Other	162	2,056	517	382	86	255	105	48
Total	32,440	18,622	4,453	432	141	426	149	746
Oceania	---	---	---	---	40	37	151	65
Grand total	33,853	26,515	5,939	1,406	3,756	6,569	5,120	4,921

[1] Less than ½ unit.

Table 31.—U.S. exports of zinc, by classes

Year	Zinc ore, concentrates (zinc content)		Slabs, pigs, or blocks		Sheets, plates, strips, or other forms, n.e.s.		Zinc scrap and dross (zinc content)		Semifabricated forms, n.e.c.		Zinc dust	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957-61 (average)	338	$25	29,937	$7,050	3,589	$2,602	8,043	$922	3,666	$783	626	$208
1962	136	46	36,102	8,050	3,547	2,391	7,940	956	1,613	1,254	676	240
1963	17	6	33,853	7,506	3,756	2,742	1,794	539	1,532	1,163	759	261
1964	39	12	26,515	7,240	6,569	3,978	6,448	1,379	5,666	2,451	1,828	542
1965	NA	NA	5,939	1,765	5,120	3,051	5,617	1,153	2,764	1,931	NA	NA
1966	NA	NA	1,406	749	4,921	3,198	4,469	702	1,768	1,207	NA	NA

NA Not available.

Table 32.—U.S. imports of zinc, by countries

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Ores (zinc content):						
North America:						
Canada	141,062	192,423	134,303	156,385	201,353	272,950
Guatemala	7,147	2,511	1,430	3	4	318
Honduras	3,403	7,048	8,234	7,709	6,786	10,776
Mexico	182,067	165,005	138,185	103,879	117,354	114,677
Other	340	-----	-----	-----	-----	-----
Total	334,019	366,987	282,152	267,976	325,497	398,721
South America:						
Argentina	55	-----	-----	10,518	-----	-----
Bolivia	3,855	1,791	4,395	3,540	4,093	5,788
Chile	577	518	-----	1,741	-----	-----
Peru	92,627	77,501	73,788	62,864	73,721	78,254
Other	61	13	8	-----	-----	-----
Total	97,175	79,823	78,191	78,663	77,814	84,042
Europe:						
Germany, West	1,154	-----	-----	-----	1,341	9,685
Italy	2,953	-----	-----	-----	-----	-----
Netherlands	-----	-----	-----	-----	-----	3,198
Spain	7,079	-----	-----	-----	-----	-----
Yugoslavia	-----	-----	-----	-----	-----	769
Other	1,060	19	-----	-----	----	410
Total	12,246	19	-----	-----	1,341	14,062
Africa:						
Morocco	-----	-----	-----	-----	5,037	7,407
South Africa, Republic of	14,111	9,589	8,614	6,086	11,267	12,565
Other	751	-----	-----	1,118	4,408	164
Total	14,862	9,589	8,614	7,204	20,712	20,136
Asia:						
Philippines	1,779	24	9	7	9	25
Other	69	-----	79	57	-----	-----
Total	1,848	24	88	64	9	25
Oceania: Australia	11,959	10,956	3,724	3,238	2,667	4,334
Grand total: Ores	472,109	467,398	372,769	357,145	428,040	521,320
Blocks, pigs, or slabs:						
North America:						
Canada	86,330	72,825	73,817	75,712	88,554	116,778
Mexico	14,736	12,334	13,219	12,791	12,787	22,702
Total	101,066	85,159	87,036	88,503	101,341	139,480
South America: Peru	12,011	7,615	7,574	7,569	10,323	30,805
Europe:						
Belgium-Luxembourg	16,423	23,232	21,904	5,557	8,889	27,469
Germany, West	2,992	1,162	6,103	265	230	6,062
Italy	5,795	992	907	-----	2,129	-----
Norway	587	-----	-----	-----	-----	4,032
Spain	1,948	2,572	6,270	2,728	1,768	926
United Kingdom	727	-----	1,183	682	-----	258
Yugoslavia	5,610	3,310	1,185	441	887	551
Other	1,387	640	440	1,275	694	8,966
Total	35,469	31,908	37,992	10,943	14,597	48,264
Africa:						
Congo (Kinshasa)	17,503	10,882	9,590	10,878	12,614	12,814
Rhodesia and Malawi	2,344	4,643	1,982	62	-----	-----
Total	19,847	15,525	11,572	10,940	12,614	12,814
Asia: Japan	985	-----	-----	-----	12,995	19,805
Oceania: Australia	4,522	1,750	583	385	1,120	27,007
Grand total: Blocks, pigs, or slabs	173,900	141,957	144,757	118,340	152,990	278,175

Table 33.—U.S. imports for consumption of zinc, by classes

Year	Ore (zinc content)		Blocks, pigs, and slabs		Sheets, plates, strips, and other forms	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)	476,368	$49,547	173,018	$38,163	934	$299
1962	387,321	31,817	135,995	28,478	1,303	365
1963	371,919	30,757	132,332	27,942	1,532	413
1964	311,435	35,831	134,118	31,898	1,774	527
1965	402,936	53,829	153,957	42,605	1,381	453
1966	396,375	51,696	280,307	75,624	1,708	670

Year	Old and worn out		Dross and skimmings		Zinc dust		Total value[1]
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	
1957–61 (average)	211	$27	852	$114	71	$17	$88,167
1962	861	120	1,907	286	909	207	61,273
1963	1,461	231	1,415	215	2,608	589	60,147
1964	1,274	227	2,501	425	3,269	797	69,705
1965	1,576	337	3,125	667	244	57	97,948
1966	2,032	402	4,531	893	1,286	398	129,683

[1] In addition, manufactures of zinc were imported as follows: 1957–61 (average) $618,087; 1962, $1,138,940; 1963, $978,619; 1964, $1,338,891; 1965, $481,431 (revised); 1966, $545,003.

Table 34.—U.S. imports for consumption of zinc, by countries

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Ores (zinc content):						
North America:						
Canada	153,546	135,430	131,125	117,866	202,004	233,093
Guatemala	5,099	8,375	3,692	6	4	318
Honduras	1,964	4,154	8,613	6,374	8,246	677
Mexico	179,976	139,374	138,419	105,059	104,939	87,112
Other	301	(1)	---	---	---	---
Total	340,886	287,333	281,849	229,305	315,193	321,200
South America:						
Argentina	33	---	---	12,442	10	---
Bolivia	3,799	681	3,492	2,084	2,932	321
Chile	831	216	324	---	---	---
Peru	95,743	75,333	67,113	57,076	60,619	52,718
Other	63	22	30	---	---	---
Total	100,469	76,252	70,959	71,602	63,561	53,039
Europe:						
Germany, West	1,462	1	---	---	1,341	5,945
Italy	3,272	695	---	---	---	---
Spain	6,401	947	---	---	---	---
Other	710	---	---	---	---	769
Total	11,845	1,643	---	---	1,341	6,714
Africa:						
South Africa, Republic of	12,564	10,391	11,438	6,384	11,425	12,440
Other	361	11	766	1,118	8,084	2,982
Total	12,925	10,402	12,204	7,502	19,509	15,422
Asia:						
Philippines	1,234	2,663	43	16	25	---
Other	47	(1)	59	28	---	---
Total	1,281	2,663	102	44	25	---
Oceania: Australia	8,962	9,028	6,805	2,982	3,307	---
Grand total: Ores	476,368	387,321	371,919	311,435	402,936	396,375
Blocks, pigs, or slabs:						
North America:						
Canada	86,300	72,850	73,817	75,762	88,585	116,758
Mexico	14,683	12,334	12,619	12,794	12,787	22,773
Other	---	---	---	---	---	165
Total	100,983	85,184	86,436	88,556	101,372	139,696
South America: Peru	12,024	7,615	7,574	7,519	10,356	30,854
Europe:						
Belgium-Luxembourg	16,377	16,829	16,070	14,668	9,101	27,469
Germany, West	2,904	1,889	1,585	2,939	248	6,068
Italy	5,811	992	907	---	2,129	---
Spain	---	2,429	4,666	4,993	3,230	1,050
United Kingdom	728	---	623	575	336	258
Yugoslavia	5,577	2,750	1,564	909	887	551
Other	3,408	642	302	1,999	826	12,833
Total	34,805	25,531	25,717	26,083	16,757	48,224
Africa:						
Congo (Kinshasa)	17,503	10,882	9,590	10,878	12,614	12,814
Rhodesia and Malawi	2,175	5,033	2,305	697	---	---
Other	61	---	---	---	---	---
Total	19,739	15,915	11,895	11,575	12,614	12,814
Asia: Japan	990	---	---	---	11,092	21,712
Oceania: Australia	4,477	1,750	710	385	1,766	27,007
Grand total: Blocks; pigs, or slabs	173,018	135,995	132,332	134,118	153,957	280,307

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[1] Less than ½ unit.

Table 35.—World mine production of zinc (content of ore) recoverable where indicated, by countries [1] [2]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [3]
North America:					
Canada	501,937	497,180	729,939	[r] 910,929	1,041,762
Greenland [e]	4,400	-----	-----	-----	-----
Guatemala [4]	899	1,289	-----	938	[e] 550
Honduras	7,258	11,824	9,445	12,265	13,661
Mexico	276,840	256,817	269,916	256,628	256,670
United States [4]	505,491	529,254	574,858	611,153	572,558
South America:					
Argentina	34,639	31,677	25,257	[r] 32,715	33,069
Bolivia (exports)	4,021	5,124	10,755	15,088	18,411
Brazil	-----	-----	NA	5,787	NA
Chile	547	557	1,108	1,225	2,301
Colombia [e]	300	100	110	55	110
Ecuador	131	395	419	260	149
Peru	[4] 178,839	[r] [4] 214,836	[4] 260,873	[r] [4] 280,533	284,196
Europe: [2]					
Austria [4]	7,264	7,816	8,004	7,609	8,568
Bulgaria	[r] 69,125	[r] 63,831	[r] 70,775	[r] 73,036	[e] 73,000
Finland	57,509	73,142	69,436	76,070	59,938
France	15,735	20,060	18,564	[r] 23,040	26,126
Germany:					
East [e]	7,700	7,700	7,700	8,800	9,900
West	124,343	119,213	122,699	[r] 120,284	117,462
Greece	18,939	20,062	14,135	14,000	15,500
Hungary	2,500	2,900	[r] 3,100	[r] 3,600	[e] 3,600
Ireland	-----	-----	-----	1,584	24,007
Italy	144,430	117,979	122,720	[r] 127,438	120,622
Norway	[r] 13,058	[r] 14,383	[r] 13,771	[r] 13,779	15,796
Poland	159,961	162,150	[r] 166,118	[r] 167,661	208,998
Portugal	12	190	1,049	3,256	2,424
Spain	86,554	101,118	97,509	42,378	60,659
Sweden	90,227	[r] 93,682	[r] 85,070	[r] 86,972	85,649
U.S.S.R. [e] [4]	450,000	450,000	450,000	[r] 455,000	465,000
Yugoslavia	67,367	97,317	101,193	101,213	96,121
Africa:					
Algeria	46,215	39,700	38,932	42,334	29,700
Congo (Brazzaville)	786	786	5,578	[e] 7,600	[e] 7,600
Congo (Kinshasa)	105,530	114,139	116,338	131,345	126,600
Morocco	37,942	36,418	46,678	56,458	63,187
South-West Africa [4]	25,201	36,715	35,312	33,049	30,000
Tunisia	4,727	4,809	3,681	[r] 5,222	6,387
Zambia	45,084	42,100	51,800	[r] 52,190	70,100
Asia:					
Burma	9,036	8,865	8,438	8,579	6,980
China, Mainland [e]	110,000	110,000	110,000	110,000	110,000
India	6,099	6,460	6,520	5,861	5,386
Iran [5]	8,270	[e] 11,000	[e] [r] 16,500	[e] [r] 16,500	[e] 18,700
Japan	212,174	218,209	238,602	[r] 243,633	[e] 279,220
Korea:					
North [e]	100,000	110,000	110,000	115,000	115,000
South	463	1,245	2,800	7,844	12,889
Philippines	4,916	4,291	2,355	2,270	1,817
Thailand [e]	1,045	940	1,520	2,325	2,645
Turkey	6,801	5,044	6,268	7,700	[e] 9,300
Oceania: Australia	378,036	393,647	385,953	[r] 391,133	408,593
World total [e]	[r] 3,930,000	[r] 4,050,000	[r] 4,420,000	[r] 4,695,000	4,920,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Data derived in part from the International Lead and Zinc Study Group Monthly Bulletin, Yearbook of the American Bureau of Metal Statistics, the United Nations Statistical Yearbook, the Statistical Summary of the Mineral Industry (Overseas Geological Surveys, London), and Metal Statistics (Metallgesellschaft) Germany.

[2] Czechoslovakia and Rumania also produce zinc, but production data are not available; no estimates are included in totals.

[3] Compiled mostly from data available July 1967.

[4] Recoverable.

[5] Year ended March 20 of year following that stated.

Table 36.—World smelter production of zinc, by countries [1] [2]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [3]
North America:					
Canada	280,158	284,021	337,728	[r] 358,598	382,612
Mexico [4]	62,730	62,557	65,506	[r] 69,158	78,909
United States	879,395	892,584	954,084	994,402	1,025,066
South America:					
Argentina	18,487	21,716	24,471	26,015	24,563
Brazil	-----	-----	-----	[e] 85	NA
Peru	36,309	[r] 61,231	68,016	[r] 68,829	69,033
Europe: [1]					
Austria	13,325	13,074	14,215	14,455	15,654
Belgium [5]	227,248	227,437	245,308	264,334	277,451
Bulgaria	57,017	61,800	[r] 64,657	[r] 72,492	[e] 66,000
France (including dust)	186,471	186,392	209,706	[r] 211,683	216,154
Germany:					
East [e]	5,500	11,000	11,000	11,000	11,000
West	143,127	115,969	117,988	118,724	135,558
Hungary	1,700	1,700	1,500	[r] 1,700	[e] 1,600
Italy	86,055	[r] 81,091	80,483	89,175	85,130
Netherlands	40,839	39,421	41,559	44,997	45,588
Norway	49,576	[r] 51,319	53,304	[r] 57,955	56,097
Poland	199,408	199,739	206,022	209,880	212,746
Spain	68,981	71,353	71,023	60,074	61,280
U.S.S.R. [e]	515,000	515,000	510,000	515,000	520,000
United Kingdom	108,949	110,911	122,396	117,742	111,715
Yugoslavia	43,325	46,539	49,066	50,778	56,316
Africa:					
Congo (Kinshasa)	61,759	58,118	61,237	62,853	67,792
Zambia	44,576	54,510	51,491	[r] 52,289	46,628
Asia:					
China, mainland (refined) [e]	100,000	100,000	100,000	100,000	100,000
Japan	270,402	[r] 311,148	[r] 348,420	[r] 405,433	440,425
Korea:					
North [e]	65,000	70,000	75,000	80,000	80,000
South	-----	-----	-----	-----	1,570
Oceania: Australia	188,079	201,350	207,795	222,867	217,739
World total [e]	3,755,000	[r] 3,850,000	[r] 4,090,000	[r] 4,280,000	4,405,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Czechoslovakia and Rumania also produce zinc, but production data are not available; no estimates are included in the totals.

[2] Data derived in part from the International Lead and Zinc Study Group Monthly Bulletin, Yearbook of the American Bureau of Metal Statistics, the United Nations Monthly Bulletin and Statistical Yearbook, Statistical Summary of the Mineral Industry (Overseas Geological Surveys, London), and Metal Statistics (Metallgesellschaft) Germany.

[3] Compiled mostly from data available July 1967.

[4] In addition, other zinc-bearing materials were as follows: 1962, 1,890; 1963, 3,400; 1964, 3,839; 1965, 7,241; and 1966, 10,729.

[5] Includes production from reclaimed scrap.

Table 37.—World trade of zinc ores and concentrates in 1966

(Thousand short tons of contained metal unless otherwise specified)

Destination [1]	Exporting regions								
	North America [2]	Latin America [2]	Western Europe [3]	Eastern Europe [3]	Africa	Asia	Oceania	Origin not reported by continent	Total
United States	273.0	209.9	14.1	----	20.0	(4)	4.3	----	521.3
Western Europe:									
Belgium-Luxembourg [5]	261.3	----	92.5	----	78.0	----	26.7	61.9	520.5
France	48.5	24.8	68.0	----	69.3	7.8	4.6	----	223.1
West Germany	30.4	9.4	33.7	1.3	8.4	6.0	----	----	89.2
United Kingdom	7.5	.1	----	----	----	3.9	92.9	19.3	123.7
Other [6]	18.0	1.1	73.0	----	4.3	1.5	8.9	----	106.8
Total [7]	365.7	35.4	267.2	1.3	160.0	19.2	133.1	81.2	1,063.3
Japan	18.2	187.1	----	----	----	27.5	22.6	----	255.5
Grand total [7]	656.9	432.4	281.3	1.3	180.1	46.7	160.0	81.2	1,840.1

[1] Compiled from import data of countries listed in destination column only, therefore incomplete; however imports by countries not listed are regarded as being relatively small with respect to total.

[2] Mexico included with Latin America.

[3] Eastern Europe comprises Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and U.S.S.R., Yugoslavia is included with Western Europe.

[4] Less than 50 tons.

[5] Data are for gross weight of ores and concentrates rather than weight of contained metal, and cover January through October only.

[6] Austria, Netherlands, and Norway only.

[7] Total of listed figures, including gross weight of ores and concentrates for Belgium-Luxembourg and contained metal weight for all other countries.

Source: International Lead and Zinc Study Group. Lead and Zinc Statistics, V. 7, No. 5, May 1967, p. 25.

Zirconium and Hafnium

Table 1.—Salient zirconium statistics in the United States

(Short tons)

	1965	1966
Zircon:		
Production	W	W
Exports	1,761	2,311
Imports	58,873	57,976
Consumption [1]	35,500	34,000
Stocks, yearend, dealers and consumers [1]	42,900	38,000
Zirconium oxide:		
Production [2]	4,100	4,000
Producers stocks, yearend [3]	1,090	1,169

W Withheld to avoid disclosing individual company confidential data.

[1] Excludes foundries.

[2] Excludes that used in metal manufacture.

[3] Excludes that used in metal manufacture and the equivalent zirconia content of refractories.

Producers of zirconium concentrate, oxide, compounds and various forms of zirconium and hafnium metal in 1966 were as follows:

Company	*Location*
Zircon:	
E. I. du Pont de Nemours & Co., Inc	Trail Ridge, Fla.
Do	Folkston, Ga.
Zirconium sponge:	
Carborundum Metals Climax, Inc. (CMC)	Parkersburg, W. Va.
Wah Chang Corp	Albany, Ore.
Zirconium ingots:	
Carborundum Metals Climax, Inc	Akron, N.Y.
Harvey Aluminum, Inc	Torrance, Calif.
Reactive Metals, Inc	Niles, Ohio
Wah Chang Corp	Albany, Ore.
Zirconium powder:	
Carborundum Metals Climax, Inc	Akron, N.Y.
Foote Mineral Co	Exton, Pa.
Wah Chang Corp	Albany, Ore
Zirconium hydride:	
National Lead Co., Titanium Alloy Manufacturing Division	Niagara Falls, N.Y.
Mill and other fabricated products:	
Reactive Metals, Inc	Niles, Ohio
Wah Chang Corp	Albany, Ore.
Zirconium alloy:	
National Lead Co., Titanium Alloy Manufacturing Division	Niagara Falls, N.Y.
Ohio Ferro-Alloy Corp	Canton, Ohio
Union Carbide Corp	Alloy, W. Va.
Do	Niagara Falls, N.Y.
Vanadium Corporation of America	Cambridge, Ohio
Ventron Corp	Beverly, Mass.
Zirconium oxide:	
National Lead Co., Titanium Alloy Manufacturing Division	Niagara Falls, N.Y.
Norton Co	Huntsville, Ala.
Tizon Chemical Corp	Flemington, N.J.
Zirconium Corporation of America (ZIRCOA)	Solon, Ohio
Zirconium compounds:	
National Lead Co., Titanium Alloy Manufacturing Division	Niagara Falls, N.Y.
Tizon Chemical Corp	Flemington, N.J.
Transelco, Inc	Penn Yan, N.Y.
Zircon, milled:	
Continental Mineral Processing Co	Sharonville, Ohio
Howmet Corp., Minerals Division	Camden, N.J.
M&T Chemicals, Inc	Andrews, S.C.
National Lead Co., Titanium Alloy Manufacturing Division	Niagara Falls, N.Y.
Shieldalloy Corp	Newfield, N.J.
Zircon and zirconia refractories:	
Corhart Refractories Co	Louisville, Ky.
Do	Buckhannon, W. Va.
Do	Corning, N.Y.
A. P. Green Refractories Co., Remmey Division	Philadelphia, Pa.
Harbison-Corborundum Corp	Falconer, N.Y.
Harbison-Walker Refractories Co	Mount Union, Pa.
The Chas. Taylor Sons Co	Cincinnati, Ohio
Do	South Shore, Ky.
Walsh Refractories Corp	St. Louis, Mo.
Hafnium oxide:	
Carborundum Metals Climax, Inc	Parkersburg, W. Va.
Foote Mineral Co	Exton, Pa.
Nuclear Materials & Equipment Corp. (NUMEC)	Apollo, Pa.
Reactive Metals, Inc	Niles, Ohio
Wah Chang Corp	Albany, Ore.

Mineral concentrate, zirconium oxide and hybride, and various forms of zirconium and hafnium metal were quoted as follows—Continued:

	Price
Zircon:	
Domestic, containing 66 percent ZrO_2, f.o.b. Starke, Fla., per short ton [1]	$47.25
Source not indicated, containing 66 percent ZrO_2, Camden, N.J., bulk, per short ton [1]	59.50
Imported, sand, containing 65 percent ZrO_2, c.i.f. Atlantic ports, in bags, per long ton [1]	61.00
Domestic, granular, 1- to 5-ton lots, from works, in bags, per pound [2]	.04875
Domestic, milled, 1- to 5-ton lots, from works, in bags, per pound [2]	.04625
Domestic, milled, 1- to 5-ton lots, from works, in barrels, per pound [2]	.04875
Zirconium oxide: [2]	
Various purities and physical forms, in lot sizes to carloads, usually in bags, per pound	.84 to 1.50
Reactor grade, powder, drums, from works, per pound	8.00
Zirconium hydride: [2]	
Electronic grade, powder, drums, from works, per pound	14.00 to 15.00
Zirconium:	
Reactor-grade sponge, lots over 100 pounds, per pound [3]	6.25
Reactor-grade sponge, lots over 1,000 pounds, per pound [3]	5.75
Powder, commercial grade, f.o.b. ton lots, per pound [4]	10.00
Strip, hot and cold rolled, per pound [3]	11.00 to 18.00
Plate, nominal, per pound [3]	10.00
Bars, forged or hot rolled, nominal, per pound [3]	12.00
Hafnium: [4]	
Sponge, per pound	75.00
Bar and plate, rolled, per pound	138.00

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[1] E&MJ Metal and Minerals Markets. V. 37, Nos. 1–52, January-December 1966.
[2] Oil, Paint and Drug Reporter. V. 189, Nos. 1–26, Jan. 3-June 27, 1966; v. 190, Nos. 1–26, July 4-Dec. 26, 1966.
[3] Steel. V. 158, Nos. 1–26, Jan. 3-June 27, 1966; v. 159, Nos. 1–26, July 4-Dec. 26, 1966.
[4] American Metal Market. V. 73, Nos. 1–251, January-December 1966.

Table 2.—U.S. imports for consumption of zircon, by countries

(Short tons)

Country	1957–61 (average)	1962	1963	1964	1965	1966
Argentina	---	---	---	40	---	225
Australia	34,978	27,001	50,004	42,903	57,744	56,231
Austria	---	---	11	---	---	---
Brazil	1	---	---	---	---	---
Canada [1]	8	1	24	848	1,027	1,236
Ethiopia	---	---	---	---	---	110
Malaysia	---	---	---	---	---	11
Nigeria	554	544	981	622	---	---
Norway	---	---	---	---	---	140
South Africa, Republic of	1,198	3,326	1,523	---	---	---
United Arab Republic (Egypt)	---	---	---	---	---	23
United Kingdom	37	---	---	---	102	---
Total: Quantity	36,776	30,872	52,543	44,413	58,873	57,976
Value (thousands)	$1,047	$845	$1,716	$1,184	$1,690	$1,652

[1] Believed to be country of shipment rather than country of origin.

Table 3.—Free world production of zirconium concentrates by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p]
Australia	149,904	207,011	[r] 206,173	[r] 251,302	265,355
Brazil [1]	2,642	392	569	[r] 543	NA
Ceylon	---	---	---	---	167
Korea, South	---	---	---	---	90
Malagasy Republic	390	428	564	[r] 710	777
Malaysia (zircon exports)	67	289	[r] 162	[r] 629	853
Nigeria	[2] 542	886	[2] 622	---	NA
Senegal	2,575	3,383	611	---	NA
South Africa, Republic of	7,581	2,648	---	---	---
United Arab Republic (Egypt)	188	44	[r] 45	---	429
United States	W	W	W	W	W

[p] Preliminary. [r] Revised. NA Not available.
W Withheld to avoid disclosing individual company confidential data.
[1] Chiefly baddeleyite.
[2] U. S. imports.

NONMETALS

Abrasive Materials

Table 1.—Salient abrasive statistics in the United States

Kind	1957–61 (average)	1962	1963	1964	1965	1966
Natural abrasives (domestic) sold or used by producers:						
Tripoli ....short tons..	52,617	61,732	66,635	64,613	71,138	66,163
Value ....thousands..	$214	$244	$266	$268	$381	$328
Special silica-stone products[1] short tons..	3,765	2,653	2,693	3,186	3,603	3,806
Value ....thousands..	$308	$260	$255	$292	$432	$515
Garnet ....short tons..	11,845	14,166	14,626	16,123	19,330	21,952
Value ....thousands..	$1,036	$1,172	$1,412	$1,622	$1,717	$2,092
Emery ....short tons..	8,497	4,316	6,782	9,214	10,720	11,102
Value ....thousands..	$142	$71	$119	$172	$204	$210
Artificial abrasives[2] ....short tons..	410,091	423,412	402,823	459,169	524,305	607,508
Value ....thousands..	$59,380	$59,854	$56,523	$63,370	$73,102	$82,794
Foreign trade (natural and artificial abrasives):						
Imports for consumption (value) thousands..	$83,619	$79,473	$77,500	$89,299	$89,332	$110,650
Exports (value) ....do....	$25,783	$32,757	$35,774	$48,455	$50,418	$51,753
Reexports (value) ....do....	$12,718	$11,454	$12,918	$17,142	$13,750	$13,148

[1] See table 6 for kind of products.

[2] Production of silicon carbide and aluminum oxide (United States and Canada); shipments of metallic abrasives (United States).

Table 2.—U.S. exports of abrasive materials, by kinds

Kind	1965		1966	
	Quantity (thousands)	Value (thousands)	Quantity (thousands)	Value (thousands)
Natural abrasives:				
Dust and powder of precious or semiprecious stones, including diamond dust and powder carats..	1,148	$3,268	2,403	$6,815
Crushing bort ....do....	2,003	7,317	58	325
Industrial diamond ....do....			1,097	4,470
Emery, natural corundum, and other natural abrasives, n.e.c ....pounds..	26,338	1,847	32,763	2,006
Manufactured abrasives:				
Artificial corundum (fused aluminum oxide) do....	34,508	5,262	36,572	5,122
Silicon carbide, crude or in grains ....do....	25,519	5,775	17,906	3,444
Carbide abrasives, n.e.c ....do....			1,884	1,855
Grinding and polishing wheels and stones:				
Diamond ....carats..	383	3,053	436	3,331
Pulpstone ....pounds..	3,272	934	4,371	1,236
Hand-polishing stones, whetstones, oilstones, hones, and similar stones ....do....	571	1,040	611	832
Wheels and stones, n.e.c ....do....	4,328	6,438	4,391	6,818
Abrasive paper and cloth, coated with natural or artificial abrasive materials ....reams..	397	12,110	378	11,021
Coated abrasives, n.e.c	NA	108	NA	252
Metallic abrasives ....pounds..	r 82,532	r 3,266	41,877	4,226
Total	-----	50,418	-----	51,753

r Revised. NA Not available.

Table 3.—U.S. reexports of abrasive materials, by kinds

Kind	1965 Quantity (thousands)	1965 Value (thousands)	1966 Quantity (thousands)	1966 Value (thousands)
Natural abrasives:				
Dust and powder of precious or semiprecious stones, including diamond dust and powder carats	147	$410	203	$742
Crushing bort do	2,251	13,311	99	812
Diamond suitable only for industrial use do			1,692	11,561
Emery, natural corundum, and other natural abrasives, n.e.c. pounds	1	1	21	6
Manufactured abrasives:				
Carbide abrasives, n.e.c. do	-----	-----	1	2
Grinding and polishing wheels and stones:				
Diamond carats	1	8	(1)	2
Wheels and stones, not elsewhere classified pounds	2	9	1	6
Hand-polishing stones, whetstones, oilstones, hones, and similar stones pounds	2	1	1	1
Abrasive paper and cloth, coated with natural or artificial abrasive materials reams	(1)	1	-----	-----
Coated abrasives, n.e.c.	NA	(1)	NA	9
Metallic abrasives pounds	11	9	4	2
Total	-----	r 13,750	-----	13,143

NA Not available.
[1] Less than ½ unit.

Table 4.—U.S. imports for consumption of abrasive materials (natural and artificial), by kinds

Kind	1965 Quantity (thousands)	1965 Value (thousands)	1966 Quantity (thousands)	1966 Value (thousands)
Corundum, crude or crushed short tons	2	$47	3	$57
Emery, flint, rottenstone, and tripoli, crude or crushed do	18	505	39	737
Silicon carbide, crude do	90	11,078	103	12,482
Aluminum oxide, crude do	153	16,045	183	19,441
Other crude artificial abrasives do	4	397	5	625
Abrasives, ground, grains, pulverized, or refined:				
Silicon carbide do	1	347	2	497
Aluminum oxide do	6	1,158	10	1,867
Emery, corundum, flint, garnet, and other, including artificial abrasives do	(1)	51	(1)	92
Papers, cloths, and other materials wholly or partly coated with natural or artificial abrasives	(2)	2,656	(2)	4,159
Hones, whetstones, oilstones, and polishing stones number	177	46	352	83
Abrasive wheels and millstones:				
Burrstones, manufactured or bound up into millstones short tons	-----	-----	1	10
Solid natural stone wheels number	4	6	1	8
Diamond do	61	188	56	213
Other	(2)	493	(2)	561
Articles not especially provided for:				
Emery or garnet	(2)	21	(2)	17
Natural corundum or of artificial abrasive materials	(2)	82	(2)	101
Other	(2)	40	(2)	49
Grit, shot, and sand of iron and steel short tons	2	314	2	325
Diamonds:				
Diamond dies number	9	180	10	216
Crushing bort carats	2,612	6,875	3,336	8,079
Other industrial diamonds do	5,412	34,549	7,410	39,931
Miners' diamonds do	r 708	r 3,705	759	4,191
Dust and powder do	r 4,260	r 10,549	7,064	16,909
Total	-----	r 89,332	-----	110,650

r Revised.
[1] Less than ½ unit.
[2] Quantity not reported.

Table 5.—Processed tripoli [1] sold or used by producers in the United States, by uses [2]

(Short tons and thousand dollars)

Year	Abrasives		Filler		Other, including foundry facings		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	33,468	$1,429	8,402	$196	5,047	$168	46,917	$1,792
1962	38,241	1,641	9,578	252	4,863	152	52,682	2,045
1963	38,979	1,645	10,145	276	5,619	197	54,743	2,118
1964	42,371	1,831	10,865	295	5,253	169	58,489	2,295
1965	48,935	2,025	11,011	296	4,830	142	64,776	2,463
1966	45,785	1,880	10,581	285	4,491	133	60,857	2,298

[1] Includes amorphous silica and Pennsylvania rottenstone.
[2] Partly estimated.

Table 6.—Special silica-stone products sold or used by producers in the United States [1]

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957–61 (average)	3,765	$308	1964	3,186	$292
1962	2,653	260	1965	3,603	432
1963	2,693	255	1966	3,806	515

[1] Includes grinding pebbles, grindstones, oilstones and other sharpening stones, tube mill-liners, and value of millstones (1957–63).

Table 7.—Abrasive garnet sold or used by producers in the United States

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957–61 (average)	11,845	$1,036	1964	16,123	$1,622
1962	14,166	1,172	1965	19,330	1,717
1963	14,626	1,412	1966	21,952	2,092

Table 8.—World production of natural corundum, by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966
India	332	725	595	[r] 530	[e] 530
Rhodesia, Southern	3,348	5,940	2,870	[e] 4,630	[e] 4,000
South Africa, Republic of	349	79	60	[r] 344	[e] 440
World total	4,029	6,744	3,525	[e] 5,504	[e] 4,970

[e] Estimate. [r] Revised.
[1] Corundum is produced in U.S.S.R., and minor quantities elsewhere, data on production are not available, and estimate is not included in the total.

Table 9.—Emery sold or used by producers in the United States

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957-61 (average)	8,497	$142	1964	9,214	$172
1962	4,316	71	1965	10,720	204
1963	6,732	119	1966	11,102	210

Table 10.—U.S. imports for consumption of industrial diamond (excluding diamond dies)

(Thousand carats and thousand dollars)

Year	Quantity	Value	Year	Quantity	Value
1957-61 (average)	12,625	$54,674	1964	14,278	$60,042
1962	12,281	51,040	1965	[r] 12,992	[r] 55,678
1963	11,846	49,884	1966	18,569	69,110

[r] Revised.

Table 11.—U.S. imports for consumption of industrial diamond, by countries

(Thousand carats and thousand dollars)

Country	Crushing bort (including all types of bort suitable for crushing)				Other industrial diamond (including glazers' and engravers' diamond, unset)				Miners' diamond				Dust and powder			
	1965		1966		1965		1966		1965		1966		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
North America:																
Canada	1	$ 4	3	$ 7	167	$981	61	$278	1	$ 4	12	$ 55	20	$ 40	24	$ 54
Mexico	---	---	---	---	---	---	---	---	1	1	---	---	---	---	---	---
Total	1	4	3	7	167	981	61	278	2	5	12	55	20	40	24	54
South America:																
Argentina	---	---	---	---	(1)	1	---	---	---	---	---	---	---	---	---	---
Brazil	1	2	(1)	5	36	479	12	148	1	4	8	130	(1)	4	1	7
Colombia	---	---	---	---	---	---	25	8	---	---	---	---	---	---	---	---
Guyana	---	---	---	---	2	25	---	---	---	---	---	---	---	---	---	---
Surinam	---	---	---	---	---	---	1	1	---	---	---	---	---	---	---	---
Venezuela	2	4	2	5	13	117	14	96	---	---	9	57	---	---	---	---
Total	3	6	2	10	51	622	52	253	1	4	17	187	(1)	4	1	7
Europe:																
Austria	---	---	---	---	---	---	---	---	---	---	(1)	2	---	---	---	---
Belgium-Luxembourg	160	384	178	410	602	3,086	763	4,361	(1)	2	6	44	r 286	r 632	448	948
France	(1)	(1)	---	---	1	21	1	15	---	---	6	35	r (1)	r 2	---	---
Germany, West	---	---	---	---	12	205	17	273	(1)	2	2	13	3	8	12	27
Iceland	---	---	---	---	---	---	---	---	18	97	8	47	---	---	4	10
Ireland	1,321	3,508	1,503	3,720	430	1,019	1,911	5,973	607	3,169	585	3,114	r 2,738	r 7,021	5,022	12,394
Italy	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7	22
Latvia	---	---	---	---	---	---	---	---	---	---	---	---	---	---	17	37
Netherlands	105	270	51	118	239	1,448	498	2,027	10	66	---	---	199	498	133	334
Spain	---	---	---	---	---	---	---	---	---	---	22	112	---	---	---	---
Sweden	---	---	---	---	87	173	1	3	---	---	---	---	r 14	r 29	174	407
Switzerland	---	---	6	14	88	1,202	79	786	---	---	---	---	4	11	26	43
United Kingdom	623	1,630	121	283	1,025	10,074	971	9,125	12	59	14	81	546	1,279	524	1,106
Yugoslavia	---	---	---	---	1	8	---	---	---	---	---	---	---	---	---	---
Total	2,209	5,792	1,859	4,545	2,485	17,236	4,241	22,563	647	3,395	643	3,448	r 3,790	r 9,480	6,367	15,328

See footnotes at end of table.

Table 11.—U.S. imports for consumption of industrial diamond, by countries—Continued

(Thousand carats and thousand dollars)

Country	Crushing bort (including all types of bort suitable for crushing)				Other industrial diamond (including glazers' and engravers' diamond, unset)				Miners' diamond				Dust and powder			
	1965		1966		1965		1966		1965		1966		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Africa:																
British West Africa and Sierra Leone	11	$ 33	---	---	63	$561	82	$497	---	---	---	---	(1)	$ 1	1	$ 1
Central African Republic	13	39	8	$ 21	98	1,337	77	1,042	32	$144	19	$ 40	---	---	---	---
Congo (Kinshasa)	197	467	1,164	2,762	153	428	451	1,714	3	17	4	15	1	2	108	266
Ghana	---	---	3	7	510	2,683	317	1,715	---	---	---	---	1	2	---	---
Guinea	---	---	---	---	6	46	---	---	---	---	---	---	---	---	---	---
Ivory Coast	---	---	---	---	5	26	---	---	---	---	---	---	---	---	---	---
Liberia	---	---	26	60	(1)	2	20	79	---	---	---	---	---	---	---	---
Nigeria	---	---	8	19	---	---	---	---	---	---	---	---	---	---	---	---
Portuguese Western Africa, n.e.c.	---	---	22	56	6	25	39	156	---	---	---	---	---	---	2	6
South Africa, Republic of	104	280	231	568	1,572	8,348	1,684	8,852	r 23	r 139	64	440	r 367	r 860	383	849
Western Africa, n.e.c.	74	254	6	14	197	1,359	310	2,013	(1)	1	(1)	6	33	80	3	8
Total	399	1,073	1,468	3,507	2,610	14,815	2,980	16,068	r 58	r 301	87	501	r 402	945	497	1,130
Asia:																
Arabia Peninsular States, n.e.c.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	3
Israel	---	---	3	8	14	172	19	156	---	---	---	---	---	---	3	6
Japan	---	---	1	2	36	445	42	549	---	---	(1)	(1)	r 22	r 54	171	381
Korea, Republic of	---	---	---	---	(1)	6	---	---	---	---	---	---	---	---	---	---
Nansi and Nanpo Islands	---	---	---	---	---	---	1	3	---	---	---	---	---	---	---	---
Thailand	---	---	---	---	48	266	---	---	---	---	---	---	---	---	---	---
Total	---	---	4	10	98	889	62	708	---	---	(1)	(1)	r 22	r 54	175	390
Oceania:																
Australia	---	---	---	---	1	6	2	9	---	---	---	---	26	26	---	---
New Guinea	---	---	---	---	---	---	13	52	---	---	---	---	---	---	---	---
Total	---	---	---	---	1	6	15	61	---	---	---	---	26	26	---	---
Grand total	2,612	6,875	3,336	8,079	5,412	34,549	7,410	39,931	r 708	r 3,705	759	4,191	r 4,260	r 10,549	7,064	16,909

r Revised.

[1] Less than ½ unit.

Table 12.—World production of natural industrial diamond, by countries

(Thousand carats)

Country	1965	1966
Africa:		
Angola	277	304
Central African Republic	268	270
Congo (Brazzaville) [1] [2] [e]	4,982	4,982
Congo (Kinshasa)	12,490	12,417
Ghana	2,023	2,537
Guinea [e]	51	51
Ivory Coast	[r] 79	74
Liberia [1]	263	212
Sierra Leone	804	833
South Africa, Republic of:		
"Pipe" mines:		
Premier	[r] 1,829	1,975
De Beers Group [3]	[r] 726	1,169
Others	[r] 288	306
Alluvial	[r] 154	200
South-West Africa	[r] 155	176
Tanzania	414	473
Total Africa	[r] 24,803	25,979
Other areas:		
Brazil [e]	175	150
Guyana	68	55
India	1	(4)
U.S.S.R. [e]	3,200	3,200
Venezuela	39	43
World total [5]	[r] 28,286	29,427

[e] Estimated. [r] Revised.

[1] Exports.

[2] Probable origin, Republic of the Congo.

[3] Includes some alluvial from DeBeers Properties.

[4] Less than ½ unit.

[5] Does not include minor world production.

Table 13.—Crude artificial abrasives produced in the United States and Canada

(Thousand short tons and thousand dollars)

Year	Silicon carbide [1]		Aluminum oxide [1] (abrasive grade)		Metallic abrasives [2]		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957-61 (average)	125	$19,890	169	$22,598	116	$16,892	410	$59,380
1962	115	17,728	182	23,458	126	18,668	423	59,854
1963	109	15,530	160	20,936	134	20,057	403	56,523
1964	132	18,432	171	21,493	156	23,445	459	63,370
1965	138	19,963	195	24,909	191	28,230	524	73,102
1966	159	21,674	244	29,981	205	31,139	608	82,794

[1] Figures include material used for refractories and other nonabrasive purposes.

[2] Shipments for U.S. plants only.

Table 14.—Production, shipments, and stocks of metallic abrasives in the United States, by products

Year and product	Manufactured		Sold or used		Stocks Dec. 31 (short tons)	Annual capacity (short tons)
	Short tons	Value (thousands)	Short tons	Value (thousands)		
1965:						
Chilled iron shot and grit	42,804	$4,502	48,181	$5,257	7,990	238,838
Annealed iron shot and grit	43,032	5,290	43,474	5,410	1,666	[1] 101,894
Steel shot and grit	96,436	15,360	95,857	16,764	7,502	128,530
Other [2]	3,303	759	3,035	799	711	9,450
Total	185,575	25,911	190,547	28,230	[3] 17,869	376,818
1966:						
Chilled iron shot and grit	42,227	4,128	43,213	4,748	7,004	218,950
Annealed iron shot and grit	46,111	4,828	47,224	5,991	553	[1] 96,179
Steel shot and grit	108,964	15,568	110,142	19,645	6,324	144,815
Other [2]	4,248	748	4,039	755	920	9,700
Total	201,550	25,272	204,618	31,139	14,801	373,465

[1] Included in capacity of chilled iron shot and grit.
[2] Includes cut wire shot.
[3] Includes revisions in product detail.

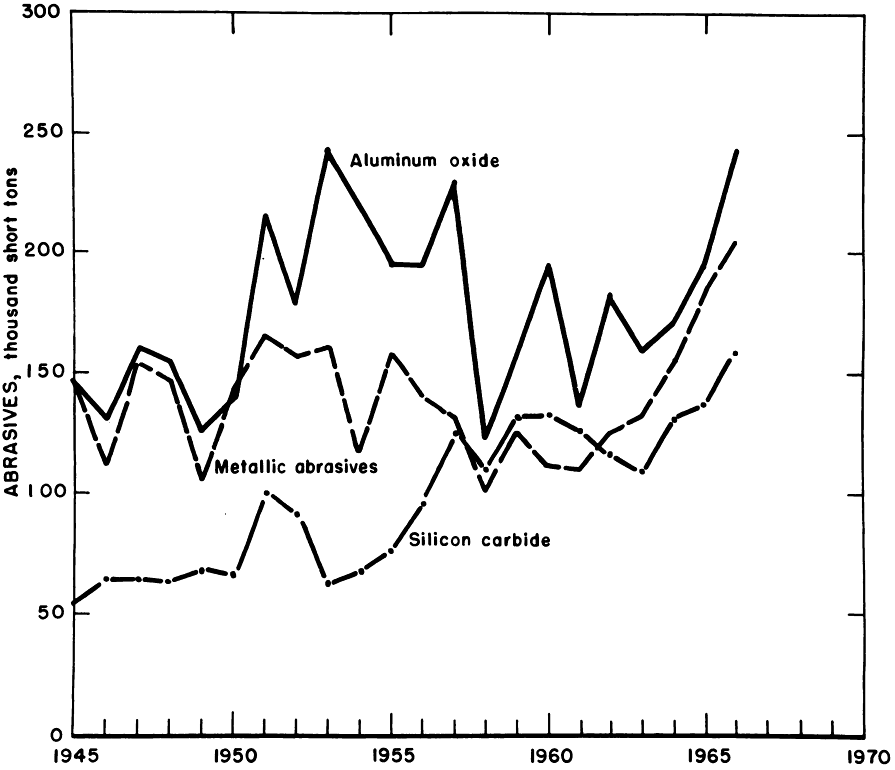

Figure 1.—Artificial abrasives production.

Table 15.—Stocks of crude artificial abrasives and capacity of manufacturing plants, as reported by producers in the United States and Canada

(Thousand short tons)

Year	Silicon carbide		Aluminum oxide		Metallic abrasives [1]	
	Stocks Dec. 31	Annual capacity	Stocks Dec. 31	Annual capacity	Stocks Dec. 31	Annual capacity
1957–61 (average)	13.1	141.4	30.1	299.3	17.0	265.7
1962	19.2	144.9	33.8	299.5	21.2	363.9
1963	11.2	146.5	20.6	303.4	19.2	380.5
1964	15.0	152.5	14.5	298.8	23.1	386.0
1965	9.1	155.9	10.9	304.8	[r] 17.9	376.8
1966	17.5	174.4	18.6	310.8	14.8	373.5

[r] Revised.
[1] United States only.

Asbestos

Table 1.—Salient asbestos statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production (shipments) short tons	46,226	53,190	66,396	101,092	118,275	125,928
Value thousands	$4,603	$4,677	$5,108	$8,143	$10,162	$11,056
Exports and reexports (unmanufactured) short tons	3,941	2,949	10,044	27,147	43,126	46,996
Value thousands	$637	$598	$1,304	$3,199	$5,294	$5,763
Exports and reexports of asbestos products (value) thousands	$13,781	$14,274	$16,267	$16,288	r $19,139	$21,963
Imports for consumption unmanufactured) short tons	665,227	675,953	667,860	739,361	719,559	726,459
Value thousands	$61,142	$64,112	$61,739	$72,973	$70,457	$73,100
Consumption, apparent [1] short tons	707,512	726,194	724,212	813,306	794,708	805,391
World: Production do	2,321,000	2,655,000	2,760,000	3,050,000	3,140,000	p 3,350,000

p Preliminary.
r Revised.
[1] Measured by quantity produced, plus imports, minus exports.

Table 2.—U.S. exports and reexports of asbestos and asbestos products

Product	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Exports:				
Unmanufactured:				
Crude and spinning fibers short tons	1,251	$326	1,455	$325
Nonspinning fibers do	24,221	3,622	28,017	3,973
Waste and refuse do	17,523	1,323	17,218	1,414
Total unmanufactured do	42,995	5,271	46,690	5,712
Products:				
Gaskets and packing do	1,732	4,528	2,678	5,261
Brake linings do	3,065	4,728	3,630	5,236
Clutch facings, including linings number	2,020,864	1,691	2,246,986	1,897
Textiles and yarn short tons	794	1,067	900	1,326
Shingles and clapboard do	5,465	1,096	10,010	1,797
Articles of asbestos-cement do	6,101	1,588	4,742	1,332
Manufactures, n.e.c.	NA	4,389	NA	5,058
Total products	---	19,087	---	21,907
Reexports:				
Unmanufactured:				
Crude and spinning fibers short tons	50	10	176	30
Nonspinning fibers do	81	13	130	21
Total unmanufactured do	131	23	306	51
Products:				
Gaskets and packing do	(1)	1	(1)	1
Brake linings do	1	2	1	2
Clutch facings, including linings number	5,000	4	117	1
Shingles and clapboard short tons	113	37	231	41
Articles of asbestos-cement do	(1)	(1)	---	---
Manufactures, n.e.c.	NA	8	NA	11
Total products	---	52	---	56

NA Not available.
[1] Less than ½ unit.

Table 3.—U.S. imports for consumption of asbestos (unmanufactured), by classes and countries

Year and country	Crude (including blue fiber)		Textile fiber		All other		Total	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1965:								
Australia	260	$50	------	------	------	------	260	$50
Bolivia	7	5	------	------	------	------	7	5
Canada	4,210	681	17,105	$6,139	636,734	$53,560	658,049	60,380
Chile	2	2	------	------	------	------	2	2
Finland	50	5	------	------	2,475	151	2,525	156
Italy	------	------	------	------	2	2	2	2
Mozambique	------	------	30	12	r 29	r 18	r 59	r 30
Portugal	959	33	------	------	45	4	1,004	37
Rhodesia and Malawi [1,2]	6,482	1,111	223	91	r 5,504	r 1,120	r 12,209	r 2,322
South Africa, Republic of [2]	40,011	7,125	11	3	911	182	40,933	7,310
U.S.S.R.	------	------	------	------	33	4	33	4
Yugoslavia	3,461	123	------	------	1,015	36	4,476	159
Total	55,442	9,135	17,369	6,245	646,748	55,077	719,559	70,457
1966:								
Australia	300	61	------	------	------	------	300	61
Bolivia	3	2	------	------	------	------	3	2
Canada	151	59	16,309	6,132	637,648	55,248	654,108	61,439
Finland	98	4	------	------	2,465	139	2,563	143
India	2	(3)	------	------	------	------	2	(3)
Italy	------	------	------	------	4	5	4	5
Mozambique	308	57	25	21	122	25	455	103
Portugal	------	------	------	------	10	1	10	1
Rhodesia	445	69	------	------	135	69	580	138
South Africa, Republic of [2]	56,929	9,844	530	131	5,111	801	62,570	10,776
U.S.S.R.	------	------	------	------	98	20	98	20
Yugoslavia	3,629	153	813	35	------	------	4,442	188
Zambia	1,324	224	------	------	------	------	1,324	224
Total	63,189	10,473	17,677	6,319	645,593	56,308	726,459	73,100

r Revised.

[1] All believed to be from Southern Rhodesia.

[2] Data reported by the Bureau of the Census have been adjusted by the Bureau of Mines.

[3] Less than ½ unit.

Table 4.—U.S. imports for consumption of asbestos, from specified countries, by grades

(Short tons)

Grade	1965			1966		
	Canada	Southern Rhodesia [1,2]	Republic of South Africa [2]	Canada	Southern Rhodesia	Republic of South Africa [2]
Chrysotile:						
Crudes	4,210	6,482	1,804	151	445	6,000
Spinning and textile	17,105	223	11	16,309	---	530
All other	636,734	r 5,504	911	637,648	135	5,111
Crocidolite (blue)	---	---	21,165	---	---	26,995
Amosite	---	---	17,042	---	---	23,934
Total	658,049	r 12,209	40,933	654,108	580	62,570

r Revised.

[1] Reported by the Bureau of the Census as Rhodesia and Malawi.

[2] Data reported by the Bureau of the Census have been adjusted by the Bureau of Mines.

Table 5.—World production of asbestos, by countries [1,2]
(Short tons)

Country	1962	1963	1964	1965	1966 [p] [3]
North America:					
Canada (sales)	1,215,814	1,275,530	1,420,769	1,387,555	1,479,281
United States (shipments)	53,190	66,396	101,092	118,275	125,928
South America:					
Argentina	203	365	542	[r] 243	[e] 240
Bolivia (exports)	56	10	7	3	4
Brazil	[e] 4,900	[4] 1,440	[e] [r] [4] 1,430	[4] 1,204	[4] 1,820
Europe:					
Austria	503	638	--------	--------	--------
Bulgaria	[r] 1,323	[r] 1,323	[r] 1,433	[r] 1,433	[e] 1,430
Finland [5]	10,869	[r] 10,201	11,611	[6] 13,307	13,250
France	[r] 28,034	[r] 26,094	[r] 24,289	[r] 7,506	[e] 7,720
Greece	--------	74	[e] 65	[e] 85	[e] 85
Italy	60,860	63,016	75,573	79,214	90,464
Portugal	--------	29	--------	[r] 53	10
U.S.S.R.	[e] [r] 710,000	[e] [r] 755,000	[r] 810,000	[e] [r] 865,000	[e] 925,000
Yugoslavia	7,401	9,074	9,280	10,585	8,411
Africa:					
Botswana	2,375	2,368	2,161	888	[e] 880
Kenya	212	78	204	136	73
Mozambique	370	--------	--------	--------	--------
Rhodesia, Southern	[r] 142,195	[r] 142,254	153,450	[r] 176,149	[e] 175,000
South Africa, Republic of	221,302	205,744	215,592	240,752	276,597
Swaziland	32,830	33,350	39,862	40,884	36,142
United Arab Republic (Egypt)	606	192	1,739	3,225	[7] 2,057
Asia:					
China [e]	100,000	110,000	130,000	140,000	140,000
Cyprus	22,391	19,962	13,755	[r] 17,622	24,449
India	1,865	[r] 3,038	[r] 3,710	4,989	7,646
Japan	15,407	18,210	17,979	[r] 16,451	17,067
Korea, South	1,333	2,120	1,402	[r] 1,710	687
Philippines	1,037	421	586	[r] --------	--------
Taiwan	525	604	526	883	721
Turkey	709	408	1,291	1,376	1,258
Oceania:					
Australia	18,416	13,374	13,545	11,647	13,472
New Zealand	457	439	--------	--------	--------
World total [e]	[r] 2,655,000	[r] 2,760,000	[r] 3,050,000	[r] 3,140,000	3,350,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Asbestos also is produced in Czechoslovakia, Eritrea, Malagasy, North Korea, and Rumania. No estimates for these countries are included in the total, because production is believed to be negligible.

[2] Data do not add to totals shown because of rounding where estimated figures are included in the detail.

[3] Compiled from data available May 1967.

[4] Bahia only.

[5] Includes asbestos flour.

[6] Data represent fiber.

[7] Includes vermiculite.

Table 6.—Canada: Shipments of asbestos, by grades
(Short tons)

Grade	1962	1963 [r]	1964	1965	1966
Quebec:					
Crude No. 1, 2, and other	205	217	218	(1)	(1)
Milled group:					
3 (spinning)	30,374	28,987	31,376	21,356	28,716
4 (shingle)	355,121	380,900	319,629	322,772	371,837
5 (paper)	161,952	169,198	188,672	168,759	190,278
6 (stucco)	209,572	234,371	232,382	208,682	229,426
7 (refuse)	451,521	453,821	507,003	506,497	512,030
8 (sand)	7,069	8,036	5,602	6,088	8,706
Newfoundland, Ontario, and British Columbia	(2)	(2)	[r] 135,887	153,401	138,288
Total all grades	1,215,814	1,275,530	[r] 1,420,769	1,387,555	1,479,281

[r] Revised.

[1] Included with group 3.

[2] Included with Quebec.

Source: Dominion Bureau of Statistics.

Table 7.—Republic of South Africa: Asbestos production, by varieties and sources

(Short tons)

Variety and source	1962	1963	1964	1965	1966
Amosite (Transvaal)	74,883	77,618	77,276	80,735	95,937
Chrysotile (Transvaal)	29,993	28,928	35,921	38,895	36,782
Blue (Transvaal)	14,296	11,205	10,304	8,793	8,178
Blue (Cape)	102,034	87,965	92,091	112,329	135,700
Tremolite (Transvaal)	96	28	------	------	------
Total	221,302	205,744	215,592	240,752	276,597

Source: Quarterly Information Circular for the Republic of South Africa and the Territory of South West Africa.

Table 8.—Republic of South Africa: Asbestos exports by varieties and sources

(Short tons)

Variety and source	1962	1963	1964	1965	1966
Amosite (Transvaal)	69,659	72,899	81,763	75,981	85,881
Chrysotile (Transvaal)	27,538	16,109	28,573	25,299	25,847
Blue (Transvaal)	11,867	9,309	10,709	10,075	8,211
Blue (Cape)	75,106	85,535	97,135	98,217	114,601
Tremolite (Transvaal)	------	9	------	------	------
Total	184,170	183,861	218,180	209,572	234,540

Source: Quarterly Information Circular for the Republic of South Africa and the Territory of South West Africa.

Barite

Table 1.—Salient barite and barium-chemical statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Primary:						
Mine or plant production	832	887	803	817	846	1,007
Sold or used by producers	833	860	824	830	852	947
Value	$9,716	$9,820	$9,402	$9,796	$10,192	$11,259
Imports for consumption	650	737	578	600	712	699
Value	$4,923	$6,009	$4,637	$4,796	$5,553	$5,764
Consumption [1]	1,369	1,211	1,230	1,277	1,388	1,417
Ground and crushed sold by producers	1,143	1,023	1,030	1,077	1,169	1,209
Value	$30,107	$24,285	$25,517	$26,948	$29,444	$30,641
Barium chemicals sold by producers	92	104	109	117	125	133
Value	$12,904	$14,656	$15,837	$17,101	$17,935	$19,109
World: Production	3,164	3,430	3,230	3,440	3,860	4,070

[1] Includes some witherite.

Table 2.—Domestic barite sold or used by producers in the United States, by States

(Thousand short tons and thousand dollars)

State	1957–61 (average)		1962		1963	
	Quantity	Value	Quantity	Value	Quantity	Value
Arkansas	311	$2,902	259	$2,232	236	$2,161
California	21	251	7	133	5	31
Georgia	(1)	(1)	109	1,987	117	2,013
Kentucky	W	W	W	W	6	85
Missouri	244	3,234	304	3,994	287	3,680
Nevada	95	640	138	954	120	760
New Mexico	W	W	W	W	1	6
South Carolina	122	2,345	16	327	W	W
Tennessee	(1)	(1)	(1)	(1)	24	404
Other States [2]	40	344	27	193	28	262
Total	833	9,716	860	9,820	824	9,402

State	1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value
Arkansas	233	2,202	249	2,379	233	2,266
California	6	45	4	21	15	104
Georgia	109	2,022	W	W	W	W
Kentucky	6	96	---	---	---	---
Missouri	267	3,451	329	4,219	337	4,280
Nevada	149	1,261	91	583	139	933
New Mexico	W	W	(3)	2	---	---
Tennessee	39	519	31	442	29	412
Washington	---	---	(3)	1	---	---
Other States [2]	21	200	148	2,545	194	3,264
Total	830	9,796	852	10,192	947	11,259

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Georgia included with South Carolina (1957–61); Tennessee (1957–62).

[2] Alaska (1966 only), Idaho (1957–64), Kentucky (1959–62), Montana, North Carolina (1961 only), South Carolina (1963–66), Texas (1961–66), Utah (1959–62), and Washington (1957–62).

[3] Less than ½ unit.

Table 3.—Ground and crushed barite produced and sold by producers in the United States

(Thousand short tons and thousand dollars)

Year	Plants	Production (Quantity)	Sales		Year	Plants	Production (Quantity)	Sales	
			Quantity	Value				Quantity	Value
1957–61 (average)	34	1,153	1,143	$30,107	1964	33	1,079	1,077	$26,948
1962	35	1,012	1,023	24,285	1965	31	1,169	1,169	29,444
1963	34	1,027	1,030	25,517	1966	30	1,203	1,209	30,641

Table 4.—Crude barite (domestic and imported) used in the manufacture of ground barite and barium chemicals in the United States[1]

(Thousand short tons)

Year	In manufacture of		Total	Year	In manufacture of		Total
	Ground barite[2]	Barium chemicals and lithopone			Ground barite[2]	Barium chemicals and lithopone	
1957–61 (average)	1,202	167	1,369	1964	1,103	174	1,277
1962	1,043	168	1,211	1965	1,199	189	1,388
1963	1,048	182	1,230	1966	1,215	202	1,417

[1] Includes some witherite in the manufacture of barium chemicals.
[2] Includes some crushed barite.

Table 5.—Ground and crushed barite sold by producers, by consuming industries

Industry	1957–61 (average)		1962		1963	
	Short tons	Percent of total	Short tons	Percent of total	Short tons	Percent of total
Well drilling	1,077,006	94	934,007	91	907,134	89
Glass	19,075	2	39,017	4	56,362	5
Paint	16,453	1	19,786	2	34,611	3
Rubber	20,213	2	26,235	3	28,479	3
Undistributed	10,553	1	4,045	--	3,121	--
Total	1,143,300	100	1,023,090	100	1,029,707	100

	1964		1965		1966	
	Short tons	Percent of total	Short tons	Percent of total	Short tons	Percent of total
Well drilling	930,965	87	986,889	84	1,022,106	85
Glass	56,866	5	70,158	6	73,660	6
Paint	58,396	6	68,827	6	69,895	6
Rubber	26,675	2	29,992	3	38,249	3
Undistributed	3,787	--	12,718	1	4,605	--
Total	1,076,689	100	1,168,584	100	1,208,515	100

Table 6.—Barium chemicals produced and used or sold by producers in the United States

(Short tons)

Chemical and year	Plants	Produced	Used[1] by producers[2] in other barium chemicals	Sold by producers[3]	
				Short tons	Value
Black ash: [4]					
1957–61 (average)	8	106,488	102,172	2,177	$204,441
1962	10	107,418	105,114	3,393	365,904
1963	8	112,953	102,945	3,374	322,941
1964	9	114,421	110,676	3,605	344,295
1965	7	124,279	118,805	3,954	375,815
1966	7	131,671	128,886	4,691	465,116
Carbonate (synthetic):					
1957–61 (average)	6	73,619	29,056	43,782	4,663,777
1962	7	79,313	27,683	49,484	5,415,751
1963	7	78,411	25,688	52,026	5,685,281
1964	7	81,018	28,088	53,897	6,021,728
1965	6	85,609	28,734	57,264	6,206,303
1966	6	94,369	30,669	63,697	7,197,090
Chloride (100 percent $Bacl_2$):					
1957–61 (average)	3	7,558	W	7,437	1,220,003
1962	5	10,888	------	10,276	1,703,123
1963	4	11,100	------	11,299	1,842,105
1964	5	11,425	------	11,590	1,926,885
1965	3	11,214	------	10,975	1,892,909
1966	3	12,373	------	12,213	2,182,917
Hydroxide:					
1957–61 (average)	5	13,635	46	13,081	2,118,754
1962	4	16,328	------	16,925	2,745,135
1963	4	18,746	------	18,436	3,018,482
1964	5	23,384	W	23,313	3,688,060
1965	5	30,211	W	30,459	4,662,887
1966	5	29,604	W	28,664	4,123,893
Other barium chemicals: [5]					
1957–61 (average)	--	31,677	4,236	25,579	4,696,715
1962	--	27,850	W	23,864	4,425,798
1963	--	26,555	W	23,462	4,967,844
1964	--	28,365	W	24,598	5,120,053
1965	--	29,006	W	21,926	4,796,988
1966	(6)	30,054	W	23,763	5,140,246
Total: [7]					
1957–61 (average)	--	------	------	92,056	12,903,690
1962	15	------	------	103,942	14,655,711
1963	14	------	------	108,597	15,836,653
1964	14	------	------	117,003	17,101,021
1965	12	------	------	124,578	17,934,902
1966	12	------	------	133,028	19,109,262

W Withheld to avoid disclosing individual company confidential data.

[1] Includes purchased material.

[2] Of any barium chemical.

[3] Exclusive of purchased material and exclusive of sales by one producer to another.

[4] Black-ash data include lithopone plants.

[5] Includes barium acetate, nitrate, oxide, peroxide, sulfate, and other compounds for which separate data may not be revealed.

[6] Barium acetate, 1 plant; nitrate, 3; oxide, 2; peroxide, 1; sulfate (synthetic) 5.

[7] A plant producing more than 1 product is counted only once in arriving at total.

Table 7.—Price quotations for crude and ground barite in 1966

(Per short ton)

Item	1966
Chemical-grade, f.o.b. shipping point, carlots:	
Hand picked, 95 percent $BaSO_4$, 1 percent Fe	$18.50
Flotation or magnetic separation, 96–97.5 percent $BaSO_4$, 0.3–0.7 percent Fe (add $3 for 100-pound bags)	19 to 23.50
Water ground; 99.5 percent $BaSO_4$, 325 mesh, 50-pound bags	45 to 49
Drilling-mud-grade, f.o.b. shipping point, carlots:	
83–93 percent $BaSO_4$, 3–12 percent Fe specific gravity 4.20–4.30:	
Crude, bulk	12 to 16
Some restricted sales	11.50
Ground [1]	23 to 26
Imported, 4.20–4.30 specific gravity, bulk, c.i.f. gulf ports	10 to 14

[1] Price was $26.75 until November 28, 1966.

Source: E&MJ Metal and Mineral Markets.

Table 8.—Price quotations for barium chemicals in 1966

(Per short ton, except as noted)

Item	1966
Barium carbonate, precipitated bags, carlots, works (until April 4)	$111.50
Barium carbonate, calcined, bags, carlots, works (starting April 4)	117.00
Barium chlorate, drums, works ......per pound..	.32 to .41
Barium chloride, anhydrous, bags, carlots, works [1]	176.00, 185.00
Barium dioxide (peroxide), drums, freight equalized ......per pound..	.30
Barium hydrate, crystalline, bags, carlots, truckloads, delivered	224.00
Barium monohydrate, 99 percent, bags, carlots, delivered ......per 100 pounds..	12.00
Barium nitrate, barrels, carlots, truckloads, delivered ......per pound..	.16
Barrels, less carlots, less truckloads, delivered ......do.....	.17
Barium oxide, ground, drums, carlots, truckloads, freight equalized	288.00
Blanc fixe, direct process, bags, carlots, works	$156–$175

[1] Starting April 4, $185 per ton.

Source: Oil, Paint and Drug Reporter.

Table 9.—U.S. exports of lithopone

Year	Short tons	Value (thousands)
1964	1,184	$192
1965	609	187
1966	3,017	644

Table 10.—U.S. imports for consumption of barite, by countries

(Thousand short tons and thousand dollars)

Type and source	1965 Quantity	1965 Value	1966 Quantity	1966 Value
Crude barite:				
North America:				
Canada	156	$1,277	181	$1,541
Mexico	243	1,488	212	1,501
South America:				
Brazil	11	81	---	---
Peru	104	1,067	95	969
Europe:				
Greece	12	112	11	85
Ireland	80	608	116	874
Italy	---	---	8	80
United Kingdom	43	329	10	76
Yugoslavia	9	73	---	---
Africa:				
Algeria	---	---	11	111
Morocco	48	472	45	444
Asia: Turkey	6	46	10	83
Total	712	5,553	699	5,764
Ground barite:				
North America:				
Canada	---	---	(1)	1
Mexico	(1)	8	---	---
Europe: Germany, West	(1)	1	(1)	1
Total	(1)	9	(1)	2

[1] Less than ½ unit.

Table 11.—U.S. imports for consumption of barium chemicals

Year	Lithopone Short tons	Lithopone Value (thousands)	Blanc fixe (precipitated barium sulfate) Short tons	Blanc fixe (precipitated barium sulfate) Value (thousands)	Barium chloride Short tons	Barium chloride Value (thousands)	Barium hydroxide Short tons	Barium hydroxide Value (thousands)
1957–61 (average)	67	$8	1,557	$118	1,263	$114	111	$20
1962	98	13	1,724	152	1,150	107	11	2
1963	159	21	1,602	157	1,152	104	---	---
1964	172	21	2,314	218	1,133	101	6	1
1965	190	34	1,624	181	r 890	80	6	1
1966	182	33	2,705	304	1,237	128	11	2

Year	Barium nitrate		Barium carbonate, precipitated		Other barium compounds	
1957–61 (average)	728	$111	1,271	$89	97	$67
1962	807	125	1,501	112	126	96
1963	948	145	838	58	107	78
1964	601	90	1,040	71	96	48
1965	568	84	826	53	291	165
1966	1,005	170	1,150	74	444	249

r Revised.

Table 12.—U.S. imports for consumption of crude, unground, and crushed or ground witherite

Year	Crude unground Short tons	Crude unground Value (thousands)	Crushed or ground Short tons	Crushed or ground Value (thousands)
1964	2,407	$98	25	$2
1965	r 2,569	112	25	2
1966	2,138	100	90	8

r Revised.

Table 13.—World production of barite, by countries [1]

(Short tons)

Country [1]	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	226,600	173,053	169,149	[r] 203,025	213,854
Mexico	350,684	283,246	[r] 368,220	[r] 406,027	321,306
United States	886,964	803,106	816,706	845,656	1,006,965
South America:					
Argentina	13,819	25,350	[r] 15,989	[r] 16,569	[e] 16,500
Brazil	60,241	37,601	36,968	[r] 70,945	44,344
Chile	1,156	1,123	1,203	3,143	2,247
Colombia	8,800	11,574	11,244	9,700	[e] 9,900
Peru	126,271	137,557	[r] 138,252	[r] 122,104	128,579
Europe:					
Austria (marketable)	1,192	2,395	1,390	[r] 2,573	3,069
France	92,570	82,078	92,397	[r] 114,733	[e] 110,200
Germany, West (marketable)	512,231	466,419	487,884	[r] 497,070	508,167
Greece	78,712	93,696	74,957	132,000	[e] 143,300
Ireland	22	[r] 14,918	[r] 45,232	92,581	[e] 137,800
Italy	133,976	114,229	[r] 115,461	156,412	190,411
Poland	49,841	50,376	[e] 50,376	[e] [r] 50,376	[e] 51,800
Portugal	1,489	1,828	384	[r] 3,646	1,054
Rumania	NA	NA	NA	49,604	[e] 55,100
Spain	42,923	54,312	65,183	[e] 65,000	[e] 65,000
U.S.S.R. [e]	200,000	220,000	220,000	240,000	250,000
United Kingdom [3]	84,754	61,066	68,343	67,241	34,172
Yugoslavia	114,379	115,176	112,072	[r] 107,045	110,231
Africa:					
Algeria	30,404	32,421	32,665	47,142	[e] 82,700
Kenya	------	------	------	40	108
Morocco	98,980	104,228	99,036	114,508	117,126
Rhodesia, Southern	------	1,953	1,561	[e] 1,500	NA
South Africa, Republic of	1,873	2,704	2,835	1,477	6,815
Swaziland	68	93	17	541	1,150
United Arab Republic (Egypt)	1,356	4,545	6,017	16,924	[e] 16,500
Asia:					
Burma	4,462	---	------	[e] [r] 3,300	NA
China, mainland [e]	90,000	100,000	110,000	110,000	130,000
India	36,004	41,752	50,954	50,611	56,949
Iran [4]	16,535	[e] 16,500	[r] 47,399	[e] [r] 47,400	[e] 47,400
Japan	42,016	41,360	43,810	[r] 46,606	44,466
Korea:					
North [e]	65,000	75,000	75,000	90,000	90,000
South	1,014	3,040	3,024	1,419	40
Pakistan	3,264	5,422	13,235	9,740	------
Philippines	459	1,008	1,627	------	2
Turkey	2,094	1,081	6,669	13,206	[e] 18,700
Oceania: Australia	14,038	9,206	13,778	11,591	12,880
World total [e]	3,430,000	[r] 3,230,000	[r] 3,440,000	[r] 3,860,000	4,070,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not Available.

[1] Barite is produced in Bulgaria, Czechoslovakia and East Germany, but data on production are not available. Estimates by author of chapter included in total, with the exception of Bulgaria.

[2] Compiled mostly from data available May 1967.

[3] Includes witherite.

[4] Year ended March 20 of year following that stated.

Boron

Table 1.—Salient boron minerals and compounds statistics in the United States

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
Sold or used by producers:						
Quantity:						
Gross weight	586	647	700	776	807	866
Boron oxide	297	339	369	405	425	462
Value	$43,397	$49,336	$54,981	$60,871	$64,180	$68,209
Imports for consumption:						
Quantity	[1] 1	(2)	(2)	(1 2)	[1] 6	[1] 12
Value	$173	$51	$58	$21	$279	$1,034

[1] Imports for 1957, 1964, and 1965 include a higher proportion of crude ore to refined products.
[2] Less than ½ unit.

Table 2.—Borate prices at yearend

(Dollars per ton)

	1965 [1]	1966 [1]
Borax, technical:		
Anhydrous: [2]		
Bags	92.00	97.50
Bulk	83.00	88.00
Granular, decahydrate: [3]		
Bags	50.00	54.25
Bulk	43.50	46.75
Granular, pentahydrate: [3]		
Bags	64.50	69.75
Bulk	58.00	62.25
Boric acid technical: [3] [4]		
Anhydrous:		
Bags	335.00	325.00
Crystals:		
Bags	168.50	158.50
Drums	193.50	183.50
Granular:		
Bags	112.00	102.00
Drums	137.00	127.00
Bulk	106.00	96.00
Sodium borate powder: [5]		
Bags	54.00	54.00

[1] In carlots at plant works.
[2] 99 percent.
[3] 99.5 percent.
[4] Boric acid USP $25 per ton higher than technical grade.
[5] USP

Source: Oil, Paint and Drug Reporter.

Table 3.—U.S. exports of boric acid and sodium borates, in 1966

Destination	Boric acid (H_3BO_3 content)		Sodium borates (refined)	
	Short tons	Value (thousands)	Short tons	Value (thousands)
North America:				
Canada	3,944	$535	10,715	$926
Costa Rica	16	2	114	9
Mexico	2,104	270	6,044	594
Other	54	10	93	12
Total	6,118	817	16,966	1,541
South America:				
Brazil	1,112	133	2,295	223
Colombia	547	79	1,119	99
Peru	162	20	342	33
Uruguay	----	----	234	24
Venezuela	130	19	117	9
Other	36	10	76	12
Total	1,987	261	4,183	400
Europe:				
Belgium-Luxembourg	74	8	978	71
Denmark	30	5	171	16
Finland	2	(1)	1,027	88
France	181	62	14,714	1,518
Germany, West	2,570	297	3,987	379
Ireland	35	6	438	26
Italy	37	20	2,977	314
Netherlands	2,589	337	63,334	6,500
Norway	96	13	625	40
Sweden	314	36	2,113	155
Switzerland	11	6	1,122	72
United Kingdom	85	9	7,849	666
Yugoslavia	----	----	2,211	225
Other	110	9	759	70
Total	6,134	808	102,305	10,140
Africa:				
South Africa, Republic of	390	50	2,471	260
Other	90	12	450	44
Total	480	62	2,921	304
Asia:				
Hong Kong	209	28	3,957	353
Indonesia	----	----	355	24
Iran	12	1	291	21
Israel	4	1	628	53
Japan	9,274	1,180	30,869	2,673
Korea, South	67	9	1,229	142
Malaysia	227	29	246	18
Pakistan	450	55	1,653	112
Philippines	190	30	661	76
Singapore	43	7	234	17
Taiwan	116	13	2,114	144
Thailand	96	13	562	51
Viet-Nam, South	76	10	1,902	140
Other	38	7	298	25
Total	10,802	1,383	44,999	3,849
Oceania:				
Australia	2,003	261	4,130	309
New Zealand	725	84	3,458	441
Other	49	8	99	14
Total	2,777	353	7,687	764
Grand total	28,298	3,684	179,061	16,998

[1] Less than ½ unit.

Bromine

Table 1.—Sales of bromine and bromine compounds by primary producers in the United States

(Thousand pounds and thousand dollars)

Year	Quantity		
	Gross weight	Bromine content	Value
1957–61 (average)	217,056	183,932	$47,078
1962	223,972	190,747	46,617
1963	238,583	203,333	48,558
1964	283,530	238,019	66,064
1965	328,115	274,569	77,259
1966	326,498	275,009	78,883

Table 2.—Bromine and bromine compounds sold by primary producers in the United States

(Thousand pounds and thousand dollars)

Product	Quantity		
	Gross weight	Bromine content	Value
1965:			
Elemental bromine	35,118	35,118	$7,477
Ethyl bromide	794	681	322
Methyl bromide	10,992	9,577	4,931
Other, including ethylene dibromide, sodium bromide, ammonium bromide, and potassium bromide	281,211	229,193	64,529
Total	328,115	274,569	77,259
1966:			
Elemental bromine	39,952	39,952	$8,388
Ethyl bromide	696	618	284
Methyl bromide	15,346	13,484	6,912
Other, including ethylene dibromide, sodium bromide, ammonium bromide, and potassium bromide	270,504	220,955	63,299
Total	326,498	275,009	78,883

Calcium and Calcium Compounds

Table 1.—U.S. imports for consumption of calcium and calcium chloride and exports of calcium chloride

Year	Imports				Exports	
	Calcium		Calcium chloride		Calcium chloride	
	Pounds	Value	Short tons	Value	Short tons	Value
1957–61 (average)	15,441	$21,834	1,914	$70,830	34,873	$1,297,670
1962	43,962	51,669	1,896	59,753	43,830	1,686,819
1963	26,343	31,648	2,234	67,225	36,984	1,527,243
1964	42,439	42,238	2,718	91,933	39,893	1,513,479
1965	28,219	27,616	3,658	99,751	(1)	(1)
1966	85,941	72,176	2,477	75,560	(1)	(1)

[1] Beginning Jan. 1, 1965 no longer separately classified.

Cement

Table 1.—Salient cement statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production [1] thousand 376-pound barrels	328,286	345,567	361,235	377,475	381,578	393,824
Capacity used at portland cement mills [1] percent	76.4	71.5	73.4	76.5	76.8	77.3
Shipments from mills [1] thousand 376-pound barrels	322,843	340,770	358,024	375,340	384,402	389,980
Value [1] [2] thousands	$1,067,941	$1,129,387	$1,156,890	$1,209,470	$1,221,454	$1,227,263
Average value [1] per barrel	$3.31	$3.31	$3.23	$3.22	$3.18	$3.15
Stocks Dec. 31: At mills [1] thousand 376-pound barrels	32,585	39,003	39,496	39,761	32,942	40,745
Exports do	544	380	460	713	748	1,069
Imports for consumption do	4,162	5,633	4,030	3,633	5,505	7,066
Consumption, apparent [3] do	326,461	346,023	361,594	378,260	389,159	395,977
World: Production do	1,708,451	2,102,466	2,216,729	2,437,419	2,544,466	2,722,626

[1] Excludes Puerto Rico.
[2] Value received f.o.b. mill, excluding cost of containers.
[3] Quantity shipped plus imports minus exports.

Table 2.—Finished portland cement produced, shipped, and in stock in the United States,[1] by districts

District	Active plants		Production (thousand 376-pound barrels)		Shipments from mills						Stocks at mills Dec. 31 (thousand 376-pound barrels)	
					1965			1966				
						Value			Value			
	1965	1966	1965	1966	Thousand 376-pound barrels	Total (thousands)	Average per barrel	Thousand 376-pound barrels	Total (thousands)	Average per barrel	1965[2]	1966
New York, Maine	13	12	29,622	30,555	30,410	$82,219	$2.70	30,525	$80,829	$2.65	2,853	3,793
Eastern Pennsylvania	16	17	29,262	30,793	29,765	83,890	2.82	29,227	80,828	2.76	1,865	3,662
Western Pennsylvania	5	5	10,078	11,387	10,388	33,035	3.18	10,777	33,529	3.11	1,442	1,897
Maryland, West Virginia	4	4	10,401	10,392	10,561	32,776	3.10	10,089	30,815	3.05	858	1,163
Ohio	9	9	14,599	15,755	14,786	47,499	3.21	15,181	48,740	3.21	1,498	2,271
Michigan	8	8	27,018	28,848	27,565	86,996	3.16	28,171	87,413	3.10	2,110	3,264
Indiana, Kentucky, Wisconsin	8	8	20,374	21,816	20,088	65,445	3.26	20,236	65,547	3.24	2,005	2,563
Illinois	4	4	9,235	9,108	9,358	30,622	3.27	9,203	28,617	3.11	1,351	1,163
Tennessee	6	6	8,829	8,286	8,724	27,535	3.16	8,177	25,718	3.15	932	1,129
Virginia, North Carolina, South Carolina	5	6	11,876	12,425	11,944	35,980	3.01	12,106	35,553	2.94	992	1,311
Georgia, Florida	7	7	11,497	11,940	12,044	39,550	3.28	11,667	37,579	3.22	526	800
Alabama	8	8	14,089	14,632	13,765	42,604	3.10	[3] 16,394	49,537	3.02	932	1,072
Louisiana, Mississippi	6	6	9,022	9,249	9,258	29,695	3.21	9,722	30,793	3.17	858	754
Minnesota, South Dakota, Nebraska	4	4	6,951	7,715	7,021	23,922	3.41	7,899	26,374	3.34	1,211	1,028
Iowa	5	5	13,575	13,669	13,643	46,273	3.39	14,058	46,736	3.32	1,270	1,475
Missouri	6	7	13,975	13,956	13,334	46,034	3.45	13,848	46,228	3.34	1,840	1,931
Kansas	6	6	8,877	9,174	8,801	26,972	3.06	8,979	27,246	3.03	1,294	1,490
Oklahoma, Arkansas	5	5	12,098	12,516	12,397	35,319	2.85	12,320	36,435	2.96	753	1,126
Texas	18	19	30,771	31,487	30,820	97,598	3.17	30,827	97,188	3.15	2,150	2,848
Wyoming, Montana, Idaho	4	4	3,601	3,694	3,476	12,038	3.46	3,704	12,354	3.34	679	670
Colorado, Arizona, Utah, New Mexico	7	7	11,822	11,655	11,809	39,824	3.37	11,484	38,844	3.38	1,029	1,199
Washington	6	6	6,080	6,205	6,258	22,351	3.57	6,820	24,340	3.57	728	480
Oregon, Nevada	4	4	3,745	4,276	3,671	13,122	3.57	4,541	16,393	3.61	271	265
Northern California	6	6	19,402	18,931	19,619	63,804	3.25	19,020	63,088	3.32	1,455	1,372
Southern California	7	7	25,770	26,391	25,733	81,048	3.15	26,367	83,214	3.16	1,744	1,776
Hawaii	2	2	1,584	1,706	1,564	8,297	5.30	1,749	9,046	5.17	220	177
Puerto Rico	2	2	7,269	8,071	7,284	23,415	3.21	7,603	24,277	3.19	149	618
Total	181	184	371,422	384,632	[4] 374,086	1,177,863	3.15	[3] [4] 380,694	1,187,261	3.12	33,015	41,297

[1] Includes Puerto Rico.

[2] Incorporates some revisions.

[3] Includes imported cement.

[4] Does not include finished cement used in manufacturing prepared masonry cement as follows: 1965, 1,864,000 barrels; 1966, 2,065,000.

Table 3.—Portland cement produced and shipped in the United States,[1] by types

Type and year	Active plants	Production (thousand 376-pound barrels)	Shipments		
			Thousand 376-pound barrels	Value	
				Total (thousands)	Average per barrel
General use and moderate heat (types I and II):					
1957–61 (average)	170	296,728	291,757	$944,709	$3.24
1962	177	[2] 313,888	309,784	1,004,793	3.24
1963	180	[2] 329,929	326,918	1,032,809	3.15
1964	181	[2] 347,954	346,052	1,090,712	3.15
1965	181	[2] 348,665	352,431	1,095,639	3.11
1966	183	[2] 359,493	358,446	1,102,940	3.08
High-early-strength (type III):					
1957–61 (average)	126	13,389	13,316	49,329	3.70
1962	141	[3] 14,958	14,597	53,576	3.67
1963	145	[3] 14,592	14,559	51,167	3.51
1964	144	[3] 12,873	12,530	44,124	3.52
1965	153	[3] 13,388	12,757	44,621	3.50
1966	149	[3] 14,550	12,955	44,828	3.46
Low-heat (type IV):					
1957–61 (average)	2	13	9	38	4.11
1962	2	---	9	37	4.45
1963	3	---	---	---	---
1964	1	(4)	(4)	(4)	---
1965	---	---	---	---	---
1966	---	---	---	---	---
Sulfate-resisting (type V):					
1957–61 (average)	11	400	288	1,099	3.82
1962	11	236	244	1,048	4.29
1963	18	349	324	1,267	3.91
1964	16	446	398	1,443	3.63
1965	19	512	425	1,648	3.88
1966	18	540	482	1,796	3.73
Oil-well:					
1957–61 (average)	15	1,170	1,203	4,174	3.47
1962	13	1,281	1,215	4,140	3.41
1963	15	1,239	1,158	3,878	3.35
1964	12	1,347	1,306	4,329	3.31
1965	13	1,645	1,613	5,571	3.45
1966	14	2,172	2,006	6,954	3.47
White:					
1957–61 (average)	4	1,428	1,338	8,815	6.59
1962	5	[5] 1,726	1,668	11,690	7.01
1963	5	[5] 2,050	1,935	13,547	7.00
1964	5	[5] 2,139	2,111	14,821	7.02
1965	5	[5] 2,241	2,128	14,517	6.82
1966	6	[5] 2,208	2,060	14,675	7.12
Portland-slag and portland pozzolan:					
1957–61 (average)	9	4,038	3,972	13,396	3.37
1962	7	[6] 2,848	2,868	9,524	3.32
1963	8	[6] 2,470	2,620	8,681	3.31
1964	10	[6] 1,047	1,057	3,656	3.46
1965	6	[6] 967	913	2,878	3.15
1966	5	[6] 956	562	1,732	3.08
Miscellaneous:[7]					
1957–61 (average)	22	1,257	1,168	4,426	3.79
1962	19	[5] 1,551	1,438	5,581	3.88
1963	23	[5] 1,914	1,739	6,625	3.81
1964	22	[8] 2,827	2,850	9,902	3.47
1965	34	[8] 4,004	3,819	12,989	3.40
1966	39	[8] 4,713	4,183	14,336	3.43
Grand total:					
1957–61 (average)	171	318,422	313,052	1,025,986	3.28
1962	[9] 178	336,488	331,823	1,090,389	3.29
1963	[9] 181	352,543	349,253	1,117,974	3.20
1964	[9] 181	368,633	366,304	1,168,987	3.19
1965	[9] 181	371,422	374,086	1,177,863	3.15
1966	[9] 184	384,632	380,694	1,187,261	3.12

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[1] Includes Puerto Rico.

[2] Includes air-entrained portland cement as follows (in thousand 376-pound barrels): 1962, 38,096; 1963, 40,649; 1964, 43,950; 1965, 46,118; 1966, 46,022.

[3] Includes air-entrained portland cement as follows (in thousand 376-pound barrels): 1962, 5,078; 1963, 4,879; 1964, 2,754; 1965, 2,677; 1966, 2,611.

[4] Less than ½ unit.

[5] Includes a small quantity of air-entrained portland cement.

[6] Includes air-entrained portland cement as follows (in thousand 376-pound barrels): 1962, 1,617; 1963, 1,369; 1964, 343; 1965, none; 1966, 392.

[7] Includes hydroplastic, plastic, and waterproofed cements.

[8] Includes air-entrained portland cement as follows (in thousand 376-pound barrels): 1964, 367; 1965, 775; 1966, 853.

[9] Includes number of plants making air-entrained portland cement as follows: 1962, 121; 1963, 121; 1964, 130; 1965, 132; 1966, 129.

Estimated annual capacity of portland cement plants in the United States (Including Puerto Rico) December 31, 1966

(Million barrels)

	Number of plants	Percent of total capacity
Less than 1	11	1.7
1 to 2	60	18.3
2 to 3	53	25.8
3 to 4	33	22.3
4 to 5	13	11.3
5 and over	14	20.6
Total	184	100.0

Table 4.—Portland-cement-manufacturing capacity of the United States,[1] by districts

District	Capacity Dec. 31 (thousand 376-pound barrels)		Percent utilized	
	1965	1966	1965	1966
New York, Maine	39,776	40,485	74.5	75.5
Eastern Pennsylvania	38,736	42,294	75.5	72.8
Western Pennsylvania	12,208	13,540	82.6	84.1
Maryland, West Virginia	11,880	13,850	87.6	75.0
Ohio	19,700	19,449	74.1	81.0
Michigan	34,500	35,162	78.3	82.0
Indiana, Kentucky, Wisconsin	26,300	26,560	77.5	82.1
Illinois	11,400	11,600	81.0	78.5
Tennessee	10,559	10,256	83.6	80.8
Virginia, North Carolina, South Carolina	14,910	16,900	79.7	73.5
Georgia, Florida	20,493	17,381	56.1	68.7
Alabama	15,993	16,660	88.1	87.8
Louisiana, Mississippi	11,600	11,600	77.8	79.7
Minnesota, South Dakota, Nebraska	9,100	9,017	76.4	85.6
Iowa	15,100	15,416	89.9	88.7
Missouri	18,803	18,803	74.3	74.2
Kansas	12,822	12,972	69.2	70.7
Oklahoma, Arkansas	14,359	16,126	84.3	77.6
Texas	43,574	45,074	70.6	69.8
Wyoming, Montana, Idaho	5,100	5,100	70.6	72.4
Colorado, Arizona, Utah, New Mexico	15,800	15,600	74.8	74.7
Washington	6,975	6,975	87.2	89.0
Oregon, Nevada	4,900	4,900	76.4	87.3
Northern California	21,150	21,150	91.7	89.5
Southern California	36,000	37,600	71.6	70.2
Hawaii	2,700	2,700	58.7	63.2
Puerto Rico	8,001	8,001	90.9	100.9
Total	482,439	495,171	77.0	77.7

[1] Includes Puerto Rico.

Table 5.—Capacity of portland cement plants in the United States,[1] by processes

Process	Capacity, Dec. 31						Percent of capacity utilized			Percent of total finished cement produced		
	Thousand 376-pound barrels			Percent of total								
	1964	1965	1966	1964	1965	1966	1964	1965	1966	1964	1965	1966
Wet	294,767	291,276	301,658	61.5	60.4	60.9	75.7	77.0	76.7	60.5	60.4	60.1
Dry	184,851	191,163	193,513	38.5	39.6	39.1	78.7	77.0	79.2	39.5	39.6	39.9
Total	479,618	482,439	495,171	100.0	100.0	100.0	76.9	77.0	77.7	100.0	100.0	100.0

[1] Includes Puerto Rico.

Table 6.—Portland cement clinker produced and in stock at mills in the United States,[1] by process

Clinker	Number of plants		Thousand 376-pound barrels			
			Production		Stocks on Dec. 31—	
	1965	1966[2]	1965	1966	1965	1966
Wet	112	114	223,198	231,375	8,171	9,515
Dry	69	70	152,004	158,227	10,345	10,775
Total	181	184	375,202	389,602	18,516	20,290

[1] Includes Puerto Rico.
[2] Includes two grinding plants.

Table 7.—Production and percentage of total output of portland cement in the United States,[1] by raw materials used

(Quantities in thousand 376-pound barrels)

Year	Cement rock and pure limestone		Limestone and clay or shale[2] [3]		Blast-furnace slag and limestone	
	Quantity	Percent	Quantity	Percent	Quantity	Percent
1957–61 (average)	74,620	23.4	224,515	70.5	19,287	6.1
1962	75,042	22.3	238,160	70.7	23,286	7.0
1963	85,741	24.3	251,068	71.2	15,734	4.5
1964	85,884	23.3	260,376	70.6	22,373	6.1
1965	84,360	22.7	266,148	71.7	20,914	5.6
1966	86,095	22.4	277,597	72.2	20,940	5.4

[1] Includes Puerto Rico.
[2] Includes output of 4 plants using marl and clay in 1957–61 (average); 1 plant in 1963; 1 plant using marl only in 1963; 2 plants in 1962, 1964, 1965, and 1966.
[3] Includes output of 9 plants using oystershell and clay in 1957–61 (average); 10 plants in 1962; 11 plants in 1963; 12 plants in 1964; 11 plants in 1965 and 1966.

Table 8.—Raw materials used in producing portland cement in the United States [1]

(Thousand short tons)

Raw materials	1964	1965	1966
Cement rock	18,853	19,879	21,072
Limestone (including oystershell)	80,759	81,943	84,068
Marl	391	611	762
Clay and shale[2]	11,593	11,397	11,545
Blast-furnace slag	950	935	1,132
Gypsum	3,299	3,274	3,280
Sand and sandstone (including silica and quartz)	1,376	1,834	1,920
Iron materials[3]	617	755	714
Miscellaneous[4]	84	125	288
Total	117,922	120,753	124,781

[1] Includes Puerto Rico.
[2] Includes fuller's earth, diaspore, and kaolin.
[3] Includes iron ore, pyrite cinders and ore, and mill scale.
[4] Includes fluorspar, pumicite, calcium chloride, soda ash, borax, staurolite, fly ash, diatomite, air-entraining compounds, and grinding aids.

Table 9.—Finished portland cement produced and fuel consumed by the portland-cement industry in the United States,[1] by processes

Year and process	Finished cement produced: Plants	Finished cement produced: Thousand 376-pound barrels	Finished cement produced: Percent of total	Fuel consumed: Coal (thousand short tons)	Fuel consumed: Oil (thousand 42-gallon barrels)	Fuel consumed: Natural gas (thousand cubic feet)
1965:						
Wet	113	224,321	60.4	5,143	3,648	133,520,997
Dry	68	147,101	39.6	3,993	815	64,985,952
Total	181	371,422	100.0	[2] 9,136	4,463	198,506,949
1966:						
Wet	114	231,279	60.1	5,350	3,408	141,381,957
Dry	70	153,353	39.9	3,986	503	62,423,036
Total	184	384,632	100.0	[3] 9,336	3,911	203,804,993

[1] Includes Puerto Rico.
[2] Comprises 268,759 tons of anthracite and 8,867,701 tons of bituminous coal.
[3] Comprises 186,632 tons of anthracite and 9,149,002 tons of bituminous coal.

Table 10.—Portland cement produced in the United States,[1] by kinds of fuel

Year and fuel	Finished cement produced: Plants	Finished cement produced: Thousand 376-pound barrels	Finished cement produced: Percent of total	Fuel consumed: Coal (thousand short tons)	Fuel consumed: Oil (thousand 42-gallon barrels)	Fuel consumed: Natural gas (thousand cubic feet)
1965:						
Coal	61	[2] 128,936	34.7	6,262	---	---
Oil	8	[2] 14,760	4.0	---	2,891	---
Natural gas	38	[2] 66,544	17.9	---	---	81,165,498
Coal and oil	16	37,940	10.2	1,590	717	---
Coal and natural gas	25	43,811	11.8	1,016	---	33,845,231
Oil and natural gas	24	60,767	16.4	---	705	65,945,018
Coal, oil, and natural gas	9	18,664	5.0	268	150	17,551,202
Total	181	371,422	100.0	[3] 9,136	4,463	198,506,949
1966:						
Coal	59	[2] 128,054	33.3	6,265	---	---
Oil	8	[2] 15,783	4.1	---	2,722	---
Natural gas	43	[2] 78,493	20.4	---	---	94,972,992
Coal and oil	19	43,326	11.3	1,721	677	---
Coal and natural gas	24	46,486	12.1	1,113	---	32,244,987
Oil and natural gas	22	54,746	14.2	---	462	59,505,538
Coal, oil, and natural gas	9	17,744	4.6	237	50	17,081,476
Total	184	384,632	100.0	[4] 9,336	3,911	203,804,993

[1] Includes Puerto Rico.
[2] Average consumption of fuel per barrel of cement produced as follows: 1965—coal, 97.2 pounds; oil, 0.1956 barrel; natural gas, 1,220 cubic feet; 1966—coal, 97.8 pounds; oil, 0.1725 barrel; natural gas, 1,210 cubic feet.
[3] Comprises 268,759 tons of anthracite and 8,867,701 tons of bituminous coal.
[4] Comprises 186,632 tons of anthracite and 9,149,002 tons of bituminous coal.

Table 11.—Electric energy used at portland cement plants in the United States,[1] by processes

Year and process	Electric energy used						Finished cement produced (thousand 376-pound barrels)	Average electric energy used per barrel of cement produced (kilowatt-hours)
	Generated at portland cement plants		Purchased		Total			
	Active plants	Million kilowatt-hours	Active plants	Million kilowatt-hours	Million kilowatt-hours	Percent		
1965:								
Wet	18	389	109	4,691	5,080	57.3	224,321	22.6
Dry	18	994	69	2,794	3,788	42.7	147,101	25.8
Total	36	1,383	178	7,485	8,868	100.0	371,422	23.9
Percent of total electric energy used	---	15.6	---	84.4	100.0	---	---	---
1966:								
Wet	15	687	111	4,974	5,661	58.8	231,279	24.5
Dry	19	951	70	3,014	3,966	41.2	153,353	25.9
Total	34	1,638	181	7,988	9,627	100.0	384,632	25.0
Percent of total electric energy used	---	17.0	---	83.0	100.0	---	---	---

[1] Includes Puerto Rico.

Table 12.—Shipments of portland cement from mills in the United States,[1] in bulk and in containers by types of carriers

Year and type of carrier	In bulk		In paper bags[2]		Total shipments	
	Thousand 376-pound barrels	Percent	Thousand 376-pound barrels	Percent	Thousand 376-pound barrels	Percent
1965:						
Truck	224,105	67.6	32,693	76.7	256,798	68.6
Railroad	100,379	30.3	9,579	22.5	109,958	29.4
Boat	6,616	2.0	361	.8	6,977	1.9
Used at the plant	350	.1	3	---	353	.1
Total	331,450	100.0	42,636	100.0	374,086	100.0
Percent of total	88.6	---	11.4	---	100.0	---
1966:						
Truck	232,159	68.5	33,008	79.0	265,167	69.7
Railroad	100,508	29.7	8,292	19.8	108,800	28.6
Boat	6,033	1.8	515	1.2	6,548	1.7
Used at the plant	173	---	6	---	179	---
Total	338,873	100.0	41,821	100.0	380,694	100.0
Percent of total	89.0	---	11.0	---	100.0	---

[1] Includes Puerto Rico.

[2] Cloth bags and other containers included with paper bags to avoid disclosing individual company confidential data.

Table 13.—Destination of shipments of all types of finished portland and high-early-strength cement from mills in the United States, by States

(Thousand 376-pound barrels)

Destination	Finished portland		High-early-strength	
	1965	1966	1965	1966
Alabama	6,057	5,640	56	78
Alaska [1]	W	W	W	W
Arizona	3,333	3,630	W	W
Arkansas	4,519	4,903	30	42
Northern California	18,394	17,912	45	46
Southern California	23,800	24,414	199	194
Colorado	5,033	4,837	23	24
Connecticut [1]	4,942	4,322	271	372
Delaware [1]	1,342	1,136	34	31
District of Columbia [1]	1,482	1,559	59	31
Florida	[2] 12,367	[2] 13,705	724	869
Georgia	8,980	9,226	147	142
Hawaii	1,518	1,546	---	---
Idaho	1,447	1,354	48	41
Illinois	17,683	18,333	626	580
Indiana	9,934	9,812	345	383
Iowa	8,090	8,779	144	111
Kansas	5,041	5,129	86	84
Kentucky	4,976	4,969	148	137
Louisiana	11,294	11,619	82	54
Maine	1,064	997	41	42
Maryland	7,207	6,885	412	377
Massachusetts [1]	5,961	5,986	503	502
Michigan	16,943	16,900	1,000	879
Minnesota	7,286	8,174	245	257
Mississippi	4,212	4,708	12	17
Missouri	10,414	9,230	371	276
Montana	1,493	1,412	8	7
Nebraska	4,318	4,959	172	154
Nevada	1,699	1,456	30	8
New Hampshire [1]	911	1,011	49	73
New Jersey [1]	10,625	9,828	581	514
New Mexico	2,825	2,726	157	189
New York	17,714	17,822	1,033	994
North Carolina [1]	6,969	7,126	261	251
North Dakota [1]	1,209	1,384	32	28
Ohio	18,505	19,125	521	532
Oklahoma	6,884	5,366	44	24
Oregon	4,275	4,280	82	117
Eastern Pennsylvania	10,219	10,260	508	517
Western Pennsylvania	6,607	6,521	260	272
Rhode Island [1]	1,009	1,169	88	103
South Carolina	3,450	3,801	54	54
South Dakota	1,461	1,667	47	47
Tennessee	6,717	6,931	180	145
Texas	26,371	26,995	1,503	1,642
Utah	2,610	2,268	54	66
Vermont [1]	484	597	37	42
Virginia	8,728	8,558	480	539
Washington	5,909	7,926	536	640
West Virginia	2,509	2,739	37	40
Wisconsin	8,405	9,410	282	333
Wyoming	1,062	979	4	5
Total United States	366,287	372,021	12,691	12,905
Other countries	[3] 7,799	[3] 8,673	[4] 66	[4] 50
Total shipped from cement plants	374,086	380,694	12,757	12,955

W Withheld to avoid disclosing individual company confidential data; included with "Other countries."

[1] Noncement producer.

[2] Includes shipments from Puerto Rican mills.

[3] Direct shipments by producers to foreign countries, the State of Alaska, and to Puerto Rico, including distribution from Puerto Rican mills.

[4] Direct shipments by producers to other countries and the states of Alaska and Arizona.

Table 14.—Cement shipments by types of customers in 1966

(Quantities in thousand 376-pound barrels)

District	Number of plants in district	Building material dealers		Concrete product manufacturers		Ready-mixed concrete		Highway contractors		Other contractors		Federal, State and other Government agencies		Miscellaneous including own use		Total
		Percent	Quantity	Percent	Quantity	Percent	Quantity	Percent	Quantity	Percent	Quantity	Percent	Quantity	Percent	Quantity	
New York, Maine	12	8.6	2,622	10.9	3,320	68.6	20,951	6.4	1,962	3.2	961	---	13	2.3	696	30,525
Eastern Pennsylvania	17	11.9	3,487	22.3	6,522	57.2	16,732	5.5	1,600	.8	224	.2	65	2.1	597	29,227
Western Pennsylvania	5	7.9	854	13.7	1,470	60.5	6,519	12.7	1,370	4.7	509	---	1	.5	54	10,777
Maryland, West Virginia	4	6.6	664	21.6	2,181	64.4	6,499	6.3	633	.7	74	.1	6	.3	32	10,089
Ohio	9	5.1	782	16.9	2,571	63.1	9,574	12.9	1,951	.4	63	---	---	1.6	240	15,181
Michigan	8	7.5	2,128	17.0	4,784	60.3	16,975	10.0	2,810	4.7	1,324	---	1	.5	149	28,171
Indiana, Kentucky, Wisconsin	8	5.9	1,202	13.8	2,796	65.8	13,310	11.0	2,217	1.6	319	.4	92	1.5	300	20,236
Illinois	4	4.5	412	20.6	1,894	62.9	5,789	10.3	954	1.1	99	---	---	.6	55	9,203
Tennessee	6	7.0	570	19.4	1,584	60.0	4,906	6.5	538	3.8	308	2.8	229	.5	42	8,177
Virginia, North Carolina, South Carolina	6	8.0	968	19.6	2,363	63.0	7,628	7.7	933	1.2	150	.5	61	---	3	12,106
Georgia, Florida	7	14.5	1,693	19.7	2,302	47.5	5,545	10.1	1,175	5.7	659	.8	98	1.7	195	11,667
Alabama	8	5.7	936	15.5	2,537	58.2	9,536	15.9	2,615	1.8	302	1.6	258	1.3	210	16,394
Louisiana, Mississippi	6	5.0	490	10.7	1,036	50.7	4,925	20.3	1,974	10.0	975	.2	18	3.1	304	9,722
Minnesota, South Dakota, Nebraska	4	10.2	809	8.4	667	42.5	3,356	33.2	2,625	2.4	189	.3	22	3.0	231	7,899
Iowa	5	5.5	779	16.5	2,313	62.5	8,782	13.1	1,841	2.3	325	.1	15	---	3	14,058
Missouri	7	6.2	853	31.3	4,332	46.7	6,466	12.9	1,783	2.5	348	.1	20	.3	46	13,848
Kansas	6	9.3	837	5.1	458	63.1	5,669	16.8	1,511	2.2	196	.1	6	3.4	302	8,979
Oklahoma, Arkansas	5	9.5	1,174	6.3	775	56.5	6,960	17.3	2,132	8.4	1,030	.1	7	1.9	242	12,320
Texas	19	7.7	2,363	7.4	2,274	52.7	16,249	17.2	5,288	2.5	758	.9	307	11.6	3,588	30,827
Wyoming, Montana, Idaho	4	6.2	232	7.1	262	43.1	1,596	21.2	785	18.7	692	.1	3	3.6	134	3,704
Colorado, Arizona, Utah, New Mexico	7	7.8	894	10.2	1,170	62.5	7,172	8.8	1,016	7.7	890	.3	29	2.7	313	11,484
Washington	6	4.8	328	11.1	760	58.3	3,972	11.4	774	10.8	738	.6	41	3.0	207	6,820
Oregon, Nevada	4	4.7	215	7.1	321	62.1	2,821	3.7	167	21.3	969	1.0	42	.1	6	4,541
Northern California	6	6.2	1,171	9.7	1,840	61.2	11,637	9.5	1,819	12.6	2,393	.2	39	.6	121	19,020
Southern California	7	11.0	2,893	11.7	3,090	65.0	17,148	4.9	1,280	5.9	1,553	.5	129	1.0	274	26,367
Hawaii	2	8.1	141	8.1	141	65.3	1,143	4.2	73	2.4	43	11.9	208	---	(1)	1,749
Puerto Rico	2	---	---	---	---	57.2	4,349	---	---	---	---	---	---	42.8	3,254	7,603
Total	184	7.8	29,497	14.1	53,763	59.4	226,209	11.0	41,826	4.2	16,091	.5	1,710	3.0	11,598	380,694

[1] Less than 500.

Table 15.—Shipments of prepared masonry cement from mills in the United States, by States

(Thousand 280-pound barrels)

Destination	1965	1966
Alabama	705	666
Alaska [1]	---	W
Arizona	W	W
Arkansas	363	344
Colorado	186	185
Connecticut [1]	142	148
Delaware [1]	55	47
District of Columbia [1]	491	360
Florida	1,148	1,222
Georgia	1,292	1,255
Idaho	11	10
Illinois	706	716
Indiana	849	831
Iowa	224	230
Kansas	188	182
Kentucky	640	557
Louisiana	420	447
Maine	77	71
Maryland	791	713
Massachusetts [1]	295	272
Michigan	1,528	1,494
Minnesota	408	430
Mississippi	377	394
Missouri	233	230
Montana	25	21
Nebraska	87	78
Nevada	W	W
New Hampshire [1]	72	82
New Jersey [1]	684	670
New Mexico	120	100
New York	1,012	973
North Carolina	1,618	1,519
North Dakota [1]	47	49
Ohio	1,510	1,481
Oklahoma	328	292
Oregon	1	1
Eastern Pennsylvania	541	483
Western Pennsylvania	627	631
Rhode Island [1]	30	28
South Carolina	909	903
South Dakota	78	55
Tennessee	1,142	1,098
Texas	922	864
Utah	14	9
Vermont [1]	43	42
Virginia	1,337	1,215
Washington	45	45
West Virginia	237	235
Wisconsin	541	527
Wyoming	14	11
Total United States	23,113	22,216
Other countries [2]	147	151
Total shipped from cement plants	23,260	22,367

W Withheld to avoid disclosing individual company confidential data; included with "Other countries."

[1] Noncement producer.

[2] Direct shipments by producers to other countries and to Alaska, Arizona, Nevada, and Puerto Rico.

Table 16.—Prepared masonry cement produced and shipped in the United States, by districts

District	Active plants		Production (thousand 280-pound barrels)		Shipments from mills					
					1965			1966		
	1965	1966	1965	1966	Thousand 280-pound barrels	Value (thousands)	Average per barrel	Thousand 280-pound barrels	Value (thousands)	Average per barrel
New York, Maine	11	9	1,146	1,106	1,173	$2,993	$2.55	1,063	$2,583	$2.43
Eastern Pennsylvania	11	11	1,943	2,019	2,004	5,192	2.59	1,902	4,926	2.59
Western Pennsylvania	5	5	977	1,099	1,002	2,799	2.79	1,058	2,934	2.77
Maryland, West Virginia	5	5	1,208	1,037	1,204	2,961	2.46	1,046	2,496	2.39
Ohio	7	7	1,047	996	1,050	3,004	2.86	976	2,785	2.85
Michigan	6	6	2,170	2,358	2,108	5,373	2.55	2,032	5,221	2.57
Indiana, Kentucky, Wisconsin	6	6	3,105	3,108	3,258	9,838	3.02	3,071	9,341	3.04
Illinois	4	4	648	577	615	1,907	3.10	614	1,868	3.04
Tennessee	5	5	1,241	1,133	1,185	3,140	2.65	1,095	2,822	2.58
Virginia, North Carolina, South Carolina	5	6	1,915	1,933	1,938	5,577	2.88	1,913	5,949	3.11
Georgia, Florida	5	5	1,008	1,019	1,002	2,831	2.83	1,017	2,834	2.79
Alabama	9	9	2,628	2,518	2,598	7,853	3.02	2,570	7,613	2.96
Louisiana, Mississippi	4	5	265	501	435	1,147	2.64	449	1,140	2.54
Minnesota, South Dakota, Nebraska	4	4	268	267	268	834	3.11	250	761	3.04
Iowa	4	4	654	643	608	1,867	3.07	633	1,890	2.99
Missouri	5	5	380	353	377	1,173	3.11	382	1,075	2.81
Kansas	7	7	449	352	404	1,178	2.92	395	1,151	2.91
Oklahoma, Arkansas	5	5	576	522	578	1,710	2.96	546	1,634	2.99
Texas	12	13	912	859	968	3,011	3.11	884	2,872	3.25
Wyoming, Montana, Idaho	3	3	27	25	29	96	3.31	24	78	3.25
Colorado, Arizona, Utah, New Mexico	6	6	389	388	394	1,294	3.28	386	1,242	3.22
Washington	5	4	68	51	62	201	3.24	60	187	3.12
Oregon, Nevada	---	---	---	---	---	---	---	1	5	5.00
Total	134	134	23,024	22,864	23,260	65,979	2.84	22,367	63,407	2.83

Table 17.—Natural, slag, and hydraulic-lime cements produced, shipped, and in stock at mills in the United States

Year	Production		Shipments		Stocks Dec. 31 (thousand 376-pound barrels)
	Active plants	Thousand 376-pound barrels	Thousand 376-pound barrels	Value (thousands)	
1957–61 (average)	4	476	482	$1,605	75
1962	4	440	402	1,611	78
1963	4	357	352	1,407	83
1964	4	275	283	1,057	76
1965	4	279	279	1,027	76
1966	4	237	233	872	66

Table 18.—Average mill value in bulk, of cement in the United States [1]

(Per barrel)

Year	Portland cement [2]	Natural, slag, and hydraulic-lime cements [2]	Prepared masonry cement [3] [4]	All classes of cement [5]
1957–61 (average)	$3.28	$3.33	$3.84	$3.30
1962	3.29	4.01	2.87	3.31
1963	3.20	3.99	2.84	3.23
1964	3.19	3.73	2.83	3.22
1965	3.15	3.68	2.84	3.18
1966	3.12	3.74	2.83	3.15

[1] Includes Puerto Rico.
[2] 376-pound barrels.
[3] Includes masonry cements made at portland, natural, and slag cement plants.
[4] 280-pound barrels.
[5] Includes masonry cement converted to 376-pound barrels.

Table 19.—U.S. exports of hydraulic cement by countries

(Thousand 376-pound barrels and thousand dollars)

Destination	1964		1965		1966	
	376-pound barrels	Value (thousands)	376-pound barrels	Value (thousands)	376-pound barrels	Value (thousands)
North America:						
Bermuda	27	$90	(1)	$7	(1)	$7
Canada	133	818	281	1,916	495	2,130
Central America:						
Costa Rica	4	20	1	11	1	5
El Salvador	---	---	(1)	4	1	8
Guatemala	1	5	1	4	1	9
Honduras	(1)	1	(1)	1	(1)	(1)
Nicaragua	3	13	7	33	3	14
Panama	2	12	2	21	2	27
Mexico	62	309	95	436	120	504
Miquelon and St. Pierre Islands	---	---	---	---	(1)	1
West Indies:						
British:						
Bahamas	170	679	41	200	33	166
Barbados	8	19	8	21	(1)	2
Jamaica	1	5	2	10	3	41
Leeward and Windward Islands	34	85	35	103	64	180
Trinidad and Tobago	1	10	(1)	7	1	3
Dominican Republic	10	25	1	10	1	9
French West Indies	10	23	76	155	160	347
Haiti	1	3	1	3	2	7
Netherlands Antilles	(1)	1	(1)	2	4	9
Other	1	8	(1)	(1)	2	12
Total	468	2,126	551	2,944	893	3,481
South America:						
Bolivia	5	45	2	15	4	39
Brazil	---	---	2	15	(1)	2
Chile	1	15	3	57	7	53
Colombia	1	12	(1)	4	3	31
Peru	4	21	9	93	10	70
Venezuela	1	3	2	20	3	21
Other	(1)	3	1	8	2	20
Total	12	99	19	212	29	236
Europe:						
Belgium-Luxembourg	---	---	2	14	1	32
France	2	9	1	9	5	20
Germany, West	(1)	7	2	44	3	28
Italy	3	19	3	26	2	24
Netherlands	1	8	2	22	4	18
Norway	(1)	1	2	21	3	13
Spain	---	---	2	29	8	114
Sweden	---	---	2	24	3	14
Switzerland	---	---	(1)	1	1	8
United Kingdom	(1)	5	1	17	3	19
Other	(1)	4	2	14	2	35
Total	6	53	19	221	35	325
Africa:						
Angola	---	---	---	---	3	19
British West Africa	(1)	1	4	19	1	7
Gabon	2	8	3	35	(1)	1
Liberia	9	35	103	403	34	128
Nigeria	(1)	2	1	11	6	25
Western Africa, n.e.c.	---	---	---	---	9	39
South Africa, Republic of	1	3	(1)	4	1	15
Other	2	9	3	23	3	17
Total	14	58	114	495	57	251
Asia:						
India	(1)	2	1	8	4	24
Indonesia	(1)	1	2	17	(1)	4
Iran	---	---	5	47	14	108
Japan	8	74	12	126	6	127
Korea, South	149	616	3	22	2	46
Pakistan	31	114	4	14	1	6
Philippines	18	86	5	54	8	88
Saudi Arabia	(1)	3	1	12	1	11
Taiwan	(1)	3	2	22	3	38

Table 19.—U.S. exports of hydraulic cement by countries—Continued

(Thousand 376-pound barrels and thousand dollars)

Destination	1964		1965		1966	
	376-pound barrels	Value (thousands)	376-pound barrels	Value (thousands)	376-pound barrels	Value (thousands)
Thailand	(1)	(1)	(1)	$1	1	$6
Turkey	(1)	$1	2	13	1	7
Viet-Nam	1	4	2	14	3	17
Other	4	40	2	26	4	30
Total	211	944	41	376	48	512
Oceania	2	10	4	40	7	31
Grand total	713	3,290	748	4,288	1,069	4,836

[1] Less than ½ unit.

Table 20.—U.S. imports for consumption of cement

(Thousand 376-pound barrels and thousand dollars)

Year	Roman, portland, and other hydraulic cement		Hydraulic cement clinker		White nonstaining portland cement		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	3,826	$9,762	28	$72	308	$1,727	4,162	$11,561
1962	4,842	10,464	472	883	319	1,508	5,633	12,855
1963	3,668	8,582	52	226	310	1,394	4,030	10,202
1964	3,208	7,433	116	382	309	1,413	3,633	9,228
1965	4,838	11,307	378	962	289	1,254	5,505	13,523
1966	6,211	15,003	648	1,847	207	996	7,066	17,846

Table 21.—U.S. imports for consumption of hydraulic cement in 1966, by countries and customs districts

(Thousand 376-pound barrels and thousand dollars)

Customs district	Bahamas	Belgium-Luxembourg	Canada	Colombia	Denmark	France	Germany, West	Italy	Jamaica	Japan	Mexico	Norway	United Kingdom	Venezuela	Yugoslavia	Total
Boston	---	---	---	---	---	---	(1)	---	---	---	---	---	---	---	---	(1)
Bridgeport	---	---	---	---	---	---	---	---	---	---	---	428	---	---	---	428
Buffalo	---	---	1,314	---	---	---	---	---	---	---	---	---	---	---	---	1,314
Chicago	---	---	---	---	---	54	---	---	---	---	---	---	24	---	---	78
Cleveland	---	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	(1)
Detroit	---	---	1	---	---	---	2	---	---	---	---	---	---	---	---	3
Great Falls	---	---	16	---	---	---	---	---	---	---	---	---	---	---	---	16
Honolulu	---	(1)	---	---	(1)	---	---	---	---	3	---	---	---	---	---	3
Houston	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---	5
Juneau	---	---	177	---	---	---	---	---	---	(1)	---	---	1	---	---	178
Laredo	---	---	---	---	---	---	---	---	---	---	12	---	---	---	---	12
Los Angeles	---	---	---	---	---	---	(1)	---	---	14	---	---	5	---	---	19
Miami	757	41	---	21	---	---	---	---	19	---	---	---	---	---	---	838
New Orleans	---	5	---	---	---	---	---	---	---	---	---	---	---	---	---	5
New York City	350	(1)	---	---	102	---	---	---	---	---	---	576	4	---	---	1,032
Norfolk	427	---	---	---	---	---	---	---	---	---	---	---	---	---	---	427
Ogdensburg	---	---	151	---	---	(1)	---	---	---	---	---	---	(1)	---	---	151
Pembina	---	---	137	---	---	---	---	---	---	(1)	---	---	---	---	---	137
Philadelphia	---	---	---	---	---	(1)	17	---	---	---	---	---	2	---	23	42
Portland, Maine	---	---	267	---	---	---	---	---	---	---	---	---	(1)	---	---	267
Portland, Oregon	---	---	129	---	---	---	---	---	---	1	---	---	(1)	---	---	130
St. Albans	---	---	6	---	---	---	---	---	---	---	---	---	---	---	---	6
San Diego	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1
San Francisco	---	(1)	---	---	(1)	---	1	---	---	(1)	---	---	(1)	---	---	1
San Juan	---	46	---	465	7	2	(1)	2	---	41	---	---	2	4	---	569
Savannah	---	---	---	14	---	---	---	---	---	---	---	---	8	---	---	22
Seattle	---	---	203	---	---	---	---	---	---	7	---	---	(1)	---	---	210
Tampa	1,053	23	---	---	---	---	---	---	---	---	---	---	96	---	---	1,172
Total:																
Quantity	2,587	115	2,401	500	109	56	20	2	19	67	12	1,004	147	4	23	7,066
Value	$6,226	$516	$5,851	$1,061	$393	$394	$183	$10	$35	$292	$59	$1,981	$676	$8	$161	$17,846

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[1] Less than ½ unit.

Table 22.—World production of hydraulic cement, by countries

(Thousand barrels)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada (sold or used by producers)	36,587	37,314	42,075	44,432	47,393
Costa Rica	---	---	193	698	674
Cuba	4,568	4,761	[r] 4,726	[r] 4,697	[e] 4,691
Dominican Republic	1,425	1,343	1,747	1,243	1,618
El Salvador [2]	381	457	528	475	844
Guatemala	704	921	[r] 1,091	[e] 1,354	1,184
Haiti	[r] 334	[r] 293	328	246	223
Honduras	328	352	428	551	616
Jamaica	1,173	1,179	1,648	1,835	2,081
Mexico	19,654	22,058	[r] 25,897	[r] 25,341	29,129
Nicaragua	270	317	358	387	492
Panama	715	833	733	973	879
Trinidad	967	950	1,032	[r] 1,091	1,243
United States (including Puerto Rico)	351,932	368,406	385,386	388,847	401,895
South America:					
Argentina	17,162	14,863	[r] 16,951	[r] 19,378	20,475
Bolivia	[r] 287	[r] 340	375	352	352
Brazil	29,739	30,395	32,623	32,700	35,450
Chile	5,992	6,837	7,429	6,966	7,998
Colombia	10,237	10,759	[r] 11,562	[r] 12,210	13,063
Ecuador	1,255	1,513	1,689	1,906	2,568
Paraguay	94	106	135	170	152
Peru	4,110	4,421	[r] 4,767	5,998	6,266
Uruguay	2,193	[r] 1,994	[r] 2,415	2,527	2,803
Venezuela	9,000	9,264	[r] 10,847	[r] 12,383	12,395
Europe:					
Albania	698	762	745	879	[e] 792
Austria	17,924	19,419	[r] 22,099	[r] 23,711	26,391
Belgium	28,073	27,610	34,277	34,623	33,984
Bulgaria	11,099	12,929	[r] 15,434	15,720	16,746
Czechoslovakia	33,479	30,360	32,207	[r] 33,497	35,743
Denmark	9,569	8,918	11,129	[r] 11,779	11,891
Finland	7,956	8,373	9,217	10,290	9,129
France	98,984	106,325	126,278	[r] 131,133	136,498
Germany:					
East	31,849	32,002	33,814	[r] 35,690	37,853
West	167,649	171,308	197,195	[r] 200,132	203,685
Greece	11,275	13,450	15,667	18,833	21,038
Hungary	10,161	10,542	13,233	[r] 13,972	15,250
Iceland	569	575	633	668	674
Ireland	4,456	4,697	5,705	6,168	5,781
Italy	118,274	129,509	133,918	[r] 121,341	131,185
Luxembourg	1,349	1,190	[r] 1,202	1,302	1,243
Netherlands	11,815	12,202	16,845	17,432	18,546
Norway	8,279	8,431	9,035	[r] 9,399	10,073
Poland	44,233	44,995	51,368	56,129	58,873
Portugal	8,214	8,402	9,510	[r] 9,850	10,097
Rumania	20,457	25,617	27,862	31,697	34,511
Spain (includes Canary Islands)	42,767	45,429	49,838	[r] 58,346	69,228
Sweden	18,024	19,343	[r] 21,260	21,806	21,641
Switzerland	21,847	20,996	25,341	23,682	25,365
U.S.S.R.	336,131	357,767	[r] 380,728	[r] 424,433	469,017
United Kingdom	[r] 83,570	82,438	[r] 99,477	99,488	100,474
Yugoslavia	14,764	16,693	17,819	18,188	18,950
Africa:					
Algeria	5,113	5,183	[r] 4,603	[r] 4,333	3,864
Angola	991	1,137	1,255	1,437	1,548
Cape Verde Islands	41	64	70	[e] 70	NA
Congo, Republic of the (Kinshasa)	1,155	1,442	1,319	1,454	[e] 1,548
Ethiopia	258	[r] 199	258	568	[e] 586
Ivory Coast	---	---	---	---	627
Kenya	2,029	[r] 2,017	2,474	[r] 2,838	2,838
Malagasy Republic	100	240	258	229	270
Malawi	193	147	182	182	258
Morocco	4,093	4,450	5,435	[r] 4,632	5,025
Mozambique	1,050	979	1,067	1,290	[e] 1,331
Nigeria	2,838	3,084	3,887	5,764	5,875
Rhodesia, Southern [e]	1,466	1,466	1,466	1,466	1,466
Senegal	1,073	1,114	1,202	1,061	1,137
South Africa, Republic of	15,591	16,910	[r] 20,258	[r] 22,761	23,359
Sudan	[r] 610	680	534	469	586
Tanzania	---	---	---	---	270
Tunisia	2,128	2,117	2,668	2,662	2,803
Uganda	328	322	428	768	709
United Arab Republic (Egypt)	13,087	14,711	14,781	[r] 14,201	14,987
Zambia	698	680	[r] 885	[r] 1,296	[e] 1,290

See footnotes at end of table.

Table 22.—World production of hydraulic cement, by countries—Continued

(Thousand barrels)

Country	1962	1963	1964	1965	1966 [p] [1]
Asia:					
Afghanistan [3]	352	604	733	997	1,026
Burma	311	727	768	704	[e] 704
Cambodia	---	---	59	293	346
Ceylon	498	440	440	504	487
China, mainland	46,906	58,633	[e] 61,565	[e] 64,496	[e] 64,496
Cyprus	569	563	410	[r] 575	580
Hong Kong	1,243	1,272	1,261	1,413	1,448
India	50,342	54,851	56,815	[r] 62,022	64,801
Indonesia	2,961	1,935	2,574	[e] 2,140	[e] 2,140
Iran [3]	[e] 4,368	[e] 4,368	[e] 4,368	[r] 4,601	8,171
Iraq	[r] 5,224	[r] 5,517	[r] 6,403	7,534	7,869
Israel	5,594	5,992	6,438	[r] 7,388	6,848
Japan	168,787	175,594	193,377	191,665	224,359
Jordan	1,378	1,671	[r] 1,806	1,788	2,199
Korea:					
North	13,931	14,834	15,303	14,072	14,658
South	4,632	4,562	7,282	9,463	11,023
Lebanon	5,048	5,254	[r] 5,166	[r] 5,687	6,426
Malaysia	1,911	2,123	2,732	4,333	4,984
Pakistan	8,179	8,783	9,065	10,009	11,058
Philippines	5,635	5,576	7,042	[r] 8,965	9,651
Ryukyu Islands	---	---	---	598	751
Saudi Arabia	[r] 1,067	[r] 1,149	[r] 1,519	[r] 1,483	1,466
Singapore	715	1,137	[e] 1,173	1,190	2,275
Syrian Arab Republic	3,559	4,016	3,723	[r] 3,952	3,618
Taiwan	10,970	13,169	13,808	14,330	18,247
Thailand	5,646	5,840	6,215	7,323	8,695
Turkey	13,620	15,819	17,238	[r] 19,513	22,662
Viet-Nam:					
North	2,709	2,879	3,805	4,397	[e] 4,397
South	---	---	440	1,143	792
Oceania:					
Australia	17,197	18,288	21,260	22,292	21,542
Fiji Islands	NA	NA	182	235	240
New Zealand	3,700	4,233	4,620	4,937	5,148
World total [e]	[r] 2,102,466	[r] 2,216,729	[r] 2,437,419	[r] 2,544,466	2,722,626

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available July 1967.

[2] Sales, including imported clinker.

[3] Year ended March 20 of year following that stated.

Clays

Table 1.—Salient clay and clay products statistics in the United States

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
Domestic clays sold or used by producers	47,043	47,797	50,135	52,947	[r] 55,126	56,675
Value	$155,638	$163,012	$180,810	$192,631	$204,932	$221,457
Exports	503	617	739	848	850	1,074
Value	$13,429	$16,855	$21,374	$24,973	$25,595	$31,135
Imports for consumption	163	132	126	137	110	139
Value	$3,057	$2,540	$2,413	$2,638	$2,137	$2,883
Clay refractories, shipments (value)	$178,925	$166,095	$179,512	$205,267	$228,876	$243,516
Clay construction products, shipments (value)	$477,820	$512,900	$538,600	$569,200	$578,190	$554,667

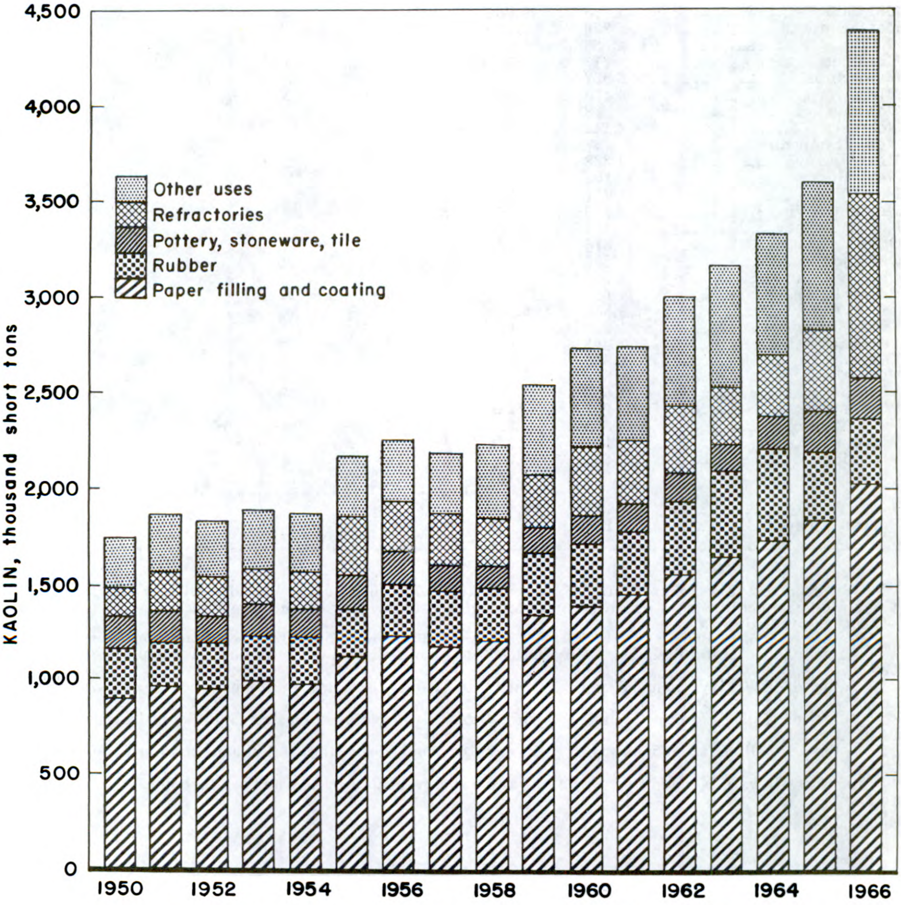

Figure 1.—Kaolin sold or used by domestic producers for specified uses.

Table 2.—Value of clays produced in the United States, by States

(Thousand dollars)

State	1965	1966	Kind of clay produced in 1966					
			Kaolin	Ball clay	Fire clay	Bentonite	Fuller's earth	Miscellaneous
Alabama	[1,2] $4,888	$5,142	x		X	x		X
Arizona[2]	164	121		x		x		x
Arkansas	1,890	[1,3] 776	X		x			X
California	7,226	6,708	x	x	X	x	x	X
Colorado	1,446	1,054			x	x		x
Connecticut	322	296						x
Delaware	11	11						x
Florida	9,752	11,408	x				X	x
Georgia	63,158	73,685	X				X	X
Idaho[1,2,3]	33	22	x		x	x		x
Illinois[4]	4,601	3,996			X		x	X
Indiana	2,160	2,196			X			X
Iowa	1,347	1,438						X
Kansas	953	1,006			x			X
Kentucky[5]	2,580	2,277		X	X			X
Louisiana	936	983						X
Maine	63	58			x			x
Maryland[5]	1,088	1,084		x	x			X
Massachusetts	238	260						x
Michigan	2,580	2,620						X
Minnesota[3]	311	336			x			x
Mississippi	[r] 6,997	7,489			x	X	X	X
Missouri	5,439	5,989		X	X			X
Montana[2]	98	56				x		x
Nebraska	[r] 141	153						x
New Hampshire	47	51						x
New Jersey	1,388	1,319			x			x
New Mexico	101	W			x			x
New York	1,717	1,726						X
North Carolina[1]	2,162	2,241	x					X
North Dakota	114	92				x		x
Ohio	14,816	14,522			X			X
Oklahoma[2]	806	754			x	x		X
Oregon	359	362				x		x
Pennsylvania[1]	17,697	17,033	x		X			X
South Carolina	8,539	8,830	X					X
South Dakota	1,220	870				x		x
Tennessee	6,103	[4] 4,909		X			x	X
Texas	6,865	7,187	x	x	X	X	x	X
Utah[1,3]	332	252	x		x	x	x	x
Virginia	1,657	1,813						X
Washington	[2,3] 211	[3] 249			x			x
West Virginia[3]	328	334			X			x
Wisconsin	147	148						x
Wyoming	13,633	15,874			x	X		x
Other[6]	[r] 8,268	13,727						
Total	[r] 204,932	221,457						
Puerto Rico	288	271						

[r] Revised.

W Withheld to avoid disclosing individual company confidential data; included with "Other."

X Major producing States which account for approximately 90 percent of production.

x Other producing States.

[1] Value of kaolin included with "Other" to avoid disclosing individual company confidential data.

[2] Value of bentonite included with "Other" to avoid disclosing individual company confidential data.

[3] Value of fire clay included with "Other" to avoid disclosing individual company confidential data.

[4] Value of fuller's earth included with "Other" to avoid disclosing individual company confidential data.

[5] Value of ball clay included with "Other" to avoid disclosing individual company confidential data.

[6] Includes Hawaii, Nevada and Vermont, and value indicated by footnotes 1 through 6.

Table 3.—Kaolin sold or used by producers in the United States, by States

Year and State	Sold by producers		Used by producers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1957–61 (average)	2,230,979	$38,925,469	251,343	$2,336,710	2,482,322	$41,262,179
1962	2,702,920	51,046,599	295,237	2,448,188	2,998,157	53,494,787
1963	2,911,926	57,239,980	251,647	2,530,294	3,163,573	59,770,274
1964	3,119,922	62,621,540	211,420	1,985,452	3,331,342	64,606,992
1965:						
Florida and North Carolina	40,400	916,360	—	—	40,400	916,360
Georgia	2,576,095	56,709,816	145,147	700,994	2,721,242	57,410,810
South Carolina	W	W	W	W	518,893	7,317,568
Other States [1]	597,978	8,432,003	244,333	2,702,270	323,418	3,816,705
Total	3,214,473	66,058,179	389,480	3,403,264	3,603,953	69,461,443
1966:						
Florida and North Carolina	38,241	849,924	—	—	38,241	849,924
Georgia	3,002,230	65,766,471	204,224	1,389,886	3,206,454	67,156,357
South Carolina	W	W	W	W	538,426	7,433,792
Other States [1]	623,638	8,701,559	517,113	5,275,935	602,325	6,543,702
Total	3,664,109	75,317,954	721,337	6,665,821	4,385,446	81,983,775

W Withheld to avoid disclosing company confidential data; included with "Other States."

[1] Includes Alabama, Arkansas, California, Idaho, Pennsylvania, Texas, Utah, Vermont, and States indicated by symbol W.

Table 4.—Georgia kaolin sold or used by producers, by uses
(Thousand short tons and thousand dollars)

Year	China clay, paper clay, etc.	Refractory uses	Total kaolin		
	Quantity	Quantity	Quantity	Value	
				Total	Average per ton
1957–61 (average)	1,692	221	1,913	$33,780	$17.66
1962	2,094	184	2,278	44,655	19.60
1963	2,276	214	2,490	50,294	20.20
1964	2,389	195	2,584	54,520	21.10
1965	2,478	243	2,721	57,411	21.10
1966	2,719	487	3,206	67,156	20.95

Table 5.—Ball clay sold or used by producers in the United States

Year	Short tons	Value
1957–61 (average)	433,886	$5,910,427
1962	486,936	6,810,441
1963	547,668	7,541,471
1964	567,315	7,829,841
1965	590,717	8,197,474
1966	570,807	7,322,140

Table 6.—Fire clay, including stoneware clay,[1] sold or used by producers in the United States, by States

Year and State	Sold by producers		Used by producers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1957–61 (average)	2,410,954	$8,120,650	7,205,056	$36,070,250	9,616,010	$44,190,900
1962	2,034,332	6,873,689	6,030,716	28,934,226	8,065,048	35,807,915
1963	2,454,714	9,392,863	5,935,460	30,165,007	8,390,174	39,557,870
1964	2,615,102	9,705,844	5,933,588	31,286,962	8,548,690	40,992,806
1965:						
Alabama	W	W	W	W	460,450	$3,219,601
Arizona	20	45	30	68	50	113
California	W	W	W	W	485,118	1,665,456
Colorado	111,130	$366,404	106,317	$470,999	217,447	837,403
Illinois	134,379	1,265,069	160,267	568,422	294,646	1,833,491
Indiana	W	W	W	W	329,348	526,413
Iowa	5,723	6,295	--------	--------	5,723	6,295
Kansas	--------	--------	99,414	247,770	99,414	247,770
Kentucky	W	W	W	W	220,864	1,447,305
Maine	--------	--------	30	87	30	87
Maryland	W	W	W	W	25,126	113,943
Mississippi	110	550	204,853	436,061	204,963	436,611
Missouri	W	W	W	W	1,128,095	4,312,482
New Jersey	W	W	W	W	110,707	884,039
New Mexico	212	1,590	2,287	10,863	2,499	12,453
Ohio	990,122	2,663,799	1,488,101	8,747,363	2,478,223	11,411,162
Oklahoma	--------	--------	410	4,100	410	4,100
Pennsylvania	561,648	1,341,172	1,145,571	10,295,167	1,707,219	11,636,339
Texas	W	W	W	W	734,834	1,999,231
Other States[2]	1,020,493	4,936,523	2,984,532	11,751,488	510,483	2,519,541
Total	2,823,837	10,581,447	6,191,812	32,532,388	9,015,649	43,113,835
1966:						
Alabama	W	W	W	W	455,113	2,174,120
California	W	W	W	W	476,262	1,417,520
Colorado	60,235	162,619	77,037	275,118	137,272	437,737
Illinois	W	W	W	W	264,036	1,562,439
Indiana	246,029	374,742	68,354	136,708	314,383	511,450
Kansas	W	W	W	W	126,681	271,362
Kentucky	W	W	W	W	177,612	1,086,000
Maine	--------	--------	30	87	30	87
Maryland	W	W	W	W	28,201	152,618
Missouri	W	W	W	W	1,285,159	4,898,181
New Jersey	W	W	W	W	108,874	830,104
Ohio	919,600	2,567,525	1,353,789	8,174,881	2,273,389	10,742,406
Oklahoma	--------	--------	370	3,700	370	3,700
Pennsylvania	504,403	1,298,566	1,115,838	9,157,121	1,620,241	10,455,687
Texas	W	W	W	W	859,367	2,057,041
Other States[2]	854,913	4,336,616	3,539,980	15,421,955	613,588	5,309,186
Total	2,585,180	8,740,068	6,155,398	33,169,570	8,740,578	41,909,638

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Includes stoneware clay as follows, in short tons: 1957-61 (average), 27,192; 1962, 57,820; 1963, 44,798; 1964, 45,679; 1965; 49,517; 1966, 45,887.

[2] Includes Arkansas, Idaho, Minnesota, Mississippi (1966), Nevada (1965), New Mexico, North Dakota (1965), Utah, Washington, West Virginia, and Wyoming, and States Indicated by symbol W.

Table 7.—Bentonite sold or used by producers in the United States by States

Year and State	Short tons	Value
1957–61 (average)	1,338,112	$15,838,871
1962	1,444,135	16,254,215
1963	1,584,516	18,536,229
1964	1,729,503	19,413,396
1965:		
California	27,560	W
Colorado	1,196	$10,817
Mississippi	279,535	3,476,558
Oregon	758	9,096
Texas	114,477	829,105
Utah	2,889	40,220
Wyoming	1,290,961	13,495,935
Other States [1]	170,571	2,545,237
Total	1,887,947	20,406,968
1966:		
Colorado	800	$8,700
Mississippi	291,313	3,614,653
Oregon	656	7,872
North Dakota	10	200
Texas	107,443	875,896
Utah	2,541	36,163
Wyoming	1,506,579	15,753,520
Other States [1]	151,274	1,725,045
Total	2,060,616	22,022,049

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Alabama, Arizona, California (1966), Idaho, Montana, Nevada, North Dakota (1965), Oklahoma, and South Dakota.

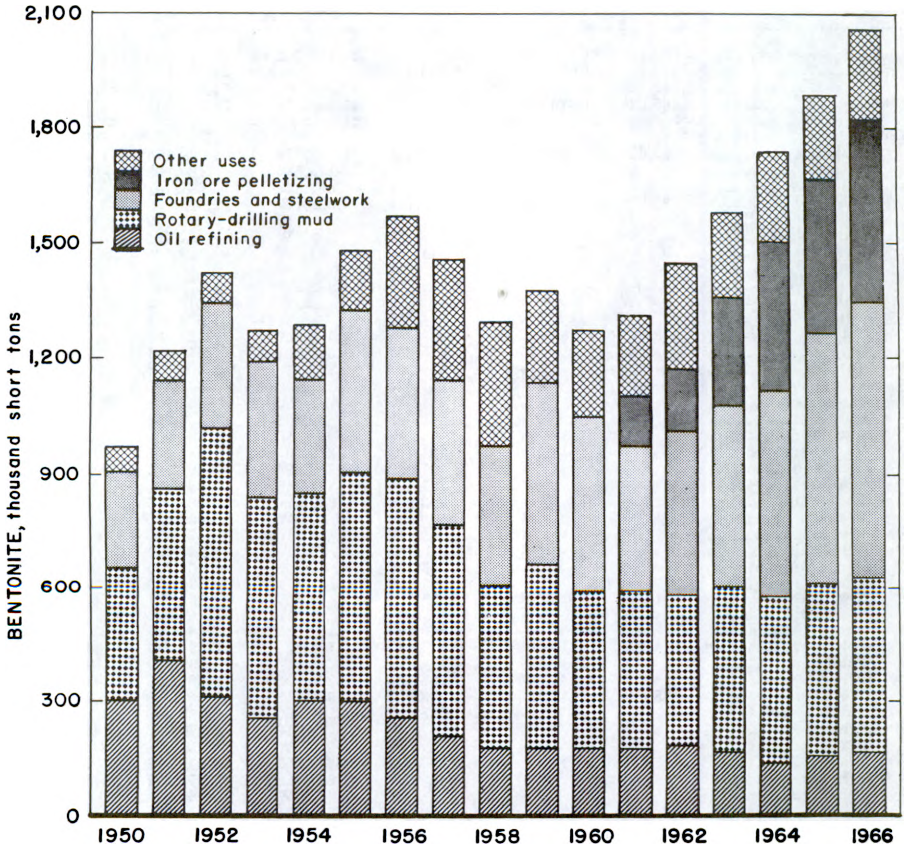

Figure 2.—Bentonite sold or used by domestic producers for specified uses.

Table 8.—Fuller's earth sold or used by producers in the United States, by States

Year and State	Short tons	Value	Year and State	Short tons	Value
1957–61 (average)	392,822	$8,674,569	1966:		
1962	409,989	9,377,355	Florida and Georgia	633,899	$16,006,985
1963	481,817	11,210,618	Utah	4,254	66,222
1964	551,886	12,742,897	Other States [1]	121,485	2,280,677
1965:			Total	759,638	18,353,884
Florida and Georgia	554,635	13,618,806			
Tennessee	26,676	389,520			
Utah	3,584	52,382			
Other States [1]	89,527	r 1,734,677			
Total	674,422	r 15,795,385			

[1] Includes California, Illinois, Mississippi, Nevada, Tennessee (1966), and Texas.

Table 9.—Miscellaneous clay, including shale and slip clay sold or used by producers in the United States, by States

Year and State	Sold by producers		Used by producers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1957–61 (average)	1,060,470	$1,595,179	31,719,635	$38,167,272	32,780,105	$39,762,451
1962	957,201	1,003,061	33,434,860	40,262,516	34,392,061	41,265,577
1963	1,041,823	1,190,063	34,926,431	43,004,301	35,968,254	44,194,364
1964	1,365,870	1,610,590	36,852,775	45,435,871	38,218,645	47,046,461
1965:						
Alabama	60,000	55,000	1,699,176	1,612,775	1,759,176	1,667,775
Arizona	—	—	129,209	163,584	129,209	163,584
Arkansas	—	—	662,761	661,825	662,761	661,825
California	82,829	137,435	2,549,739	4,355,777	2,632,568	4,493,212
Colorado	W	W	W	W	411,939	598,168
Connecticut	W	W	W	W	237,251	322,455
Delaware	—	—	11,400	11,400	11,400	11,400
Florida	W	W	W	W	46,766	32,690
Georgia	—	—	1,679,318	1,043,957	1,679,318	1,043,957
Idaho	W	W	W	W	278,363	270,700
Illinois	W	W	W	W	1,874,399	2,767,785
Indiana	148,641	157,642	980,998	1,476,229	1,129,639	1,633,871
Iowa	54	81	1,078,847	1,340,254	1,078,901	1,340,335
Kansas	—	—	689,904	705,325	689,904	705,325
Kentucky	—	—	837,670	1,132,160	837,670	1,132,160
Louisiana	W	W	W	W	908,702	935,696
Maine	—	—	48,793	62,805	48,793	62,805
Maryland	W	W	W	W	888,920	973,993
Massachusetts	—	—	181,100	237,700	181,100	237,700
Michigan	—	—	2,401,922	2,580,034	2,401,922	2,580,034
Minnesota	—	—	207,495	311,243	207,495	311,243
Mississippi	—	—	922,972	949,526	922,972	949,526
Missouri	W	W	W	W	1,098,320	1,126,267
Montana	W	W	W	W	76,310	98,457
Nebraska	—	—	r 141,009	r 141,009	r 141,009	r 141,009
New Hampshire	—	—	53,200	46,900	53,200	46,900
New Jersey	—	—	395,153	504,151	395,153	504,151
New Mexico	1,985	18,494	55,536	69,869	57,521	88,363
New York	W	W	W	W	1,353,800	1,717,142
North Carolina	—	—	3,383,226	2,161,882	3,383,226	2,161,882
Ohio	214,496	213,908	2,377,118	3,191,321	2,591,614	3,405,229
Oklahoma	W	W	W	W	793,120	802,171
Oregon	5,250	44,100	285,480	305,698	290,730	349,798
Pennsylvania	138,080	75,136	1,548,923	5,985,418	1,687,003	6,060,554
South Carolina	—	—	1,318,343	1,221,480	1,318,343	1,221,480
Tennessee	W	W	W	W	1,079,952	521,042
Texas	W	W	W	W	3,604,738	3,832,420
Utah	5,980	14,940	136,492	224,250	142,472	239,190
Virgina	—	—	1,415,397	1,657,229	1,415,397	1,657,229
Washington	W	W	W	W	162,311	210,682
West Virginia	—	—	289,395	327,576	289,395	327,576
Wisconsin	—	—	118,624	146,607	118,624	146,607
Undistributed [1]	653,045	745,967	12,444,004	r 13,866,224	282,158	r 402,523
Total	1,310,360	1,462,703	r 38,043,204	r 46,494,208	r 39,353,564	r 47,956,911

Table 9.—Miscellaneous clay, including shale and slip clay sold or used by producers in the United States, by States—Continued

Year and State	Sold by producers		Used by producers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1966:						
Alabama	W	W	W	W	1,868,820	$1,859,663
Arizona	—	—	89,014	$119,758	89,014	119,758
Arkansas	—	—	775,125	776,335	775,125	776,335
California	157,815	$271,659	2,291,668	4,505,302	2,449,478	4,776,961
Colorado	46,031	137,997	385,214	469,091	431,245	607,088
Connecticut	W	W	W	W	192,240	295,500
Delaware	—	—	11,400	11,400	11,400	11,400
Georgia	—	—	1,685,765	1,040,058	1,685,765	1,040,053
Idaho	—	—	23,463	22,075	23,463	22,075
Illinois	6,000	6,000	1,623,572	2,427,831	1,629,572	2,433,831
Indiana	187,770	190,217	988,825	1,494,484	1,176,595	1,684,701
Iowa	—	—	1,130,405	1,437,686	1,130,405	1,437,686
Kansas	W	W	W	W	720,108	734,814
Kentucky	—	—	974,376	1,191,091	974,376	1,191,091
Louisana	W	W	W	W	1,005,200	982,531
Maine	—	—	44,865	58,290	44,865	58,290
Maryland	W	W	W	W	827,529	931,557
Massachusetts	—	—	201,754	260,247	201,754	260,247
Michigan	—	—	2,449,801	2,619,691	2,449,801	2,619,691
Minnesota	—	—	224,080	336,145	224,080	336,145
Mississippi	—	—	1,156,328	1,201,313	1,156,328	1,201,313
Missouri	W	W	W	W	1,043,695	1,091,274
Montana	—	—	53,386	56,160	53,386	56,160
Nebraska	—	—	152,806	152,806	152,806	152,806
New Hampshire	—	—	50,790	50,790	50,790	50,790
New Jersey	—	—	378,999	488,823	378,999	488,823
New York	W	W	W	W	1,463,856	1,725,979
North Carolina	—	—	3,380,712	2,241,051	3,380,712	2,241,051
North Dakota	—	—	68,402	91,773	68,402	91,773
Ohio	234,012	214,771	2,581,786	3,565,302	2,815,798	3,780,073
Oklahoma	—	—	745,073	750,048	745,073	750,048
Oregon	W	W	W	W	360,351	354,345
Pennsylvania	87,816	65,471	1,585,057	6,511,680	1,672,873	6,577,151
South Carolina	—	—	1,600,372	1,395,997	1,600,372	1,395,997
Tennessee	—	—	973,612	363,813	973,612	363,813
Texas	1,240	1,488	3,521,263	3,932,262	3,522,503	3,933,750
Utah	W	W	W	W	82,295	150,071
Virginia	—	—	1,486,344	1,813,396	1,486,344	1,813,396
Washington	W	W	W	W	185,118	248,794
West Virginia	20,111	21,522	280,210	312,709	300,321	334,231
Wisconsin	—	—	122,799	147,849	122,799	147,849
Undistributed[1]	415,215	489,456	7,967,466	8,621,532	633,469	736,460
Total	1,156,010	1,398,581	39,004,727	48,466,783	40,160,737	49,865,364

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[r] Revised. W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Includes States indicated by symbol W and Florida (1966), Hawaii, Nevada, New Mexico (1966), North Dakota (1965), South Dakota, Vermont, and Wyoming.

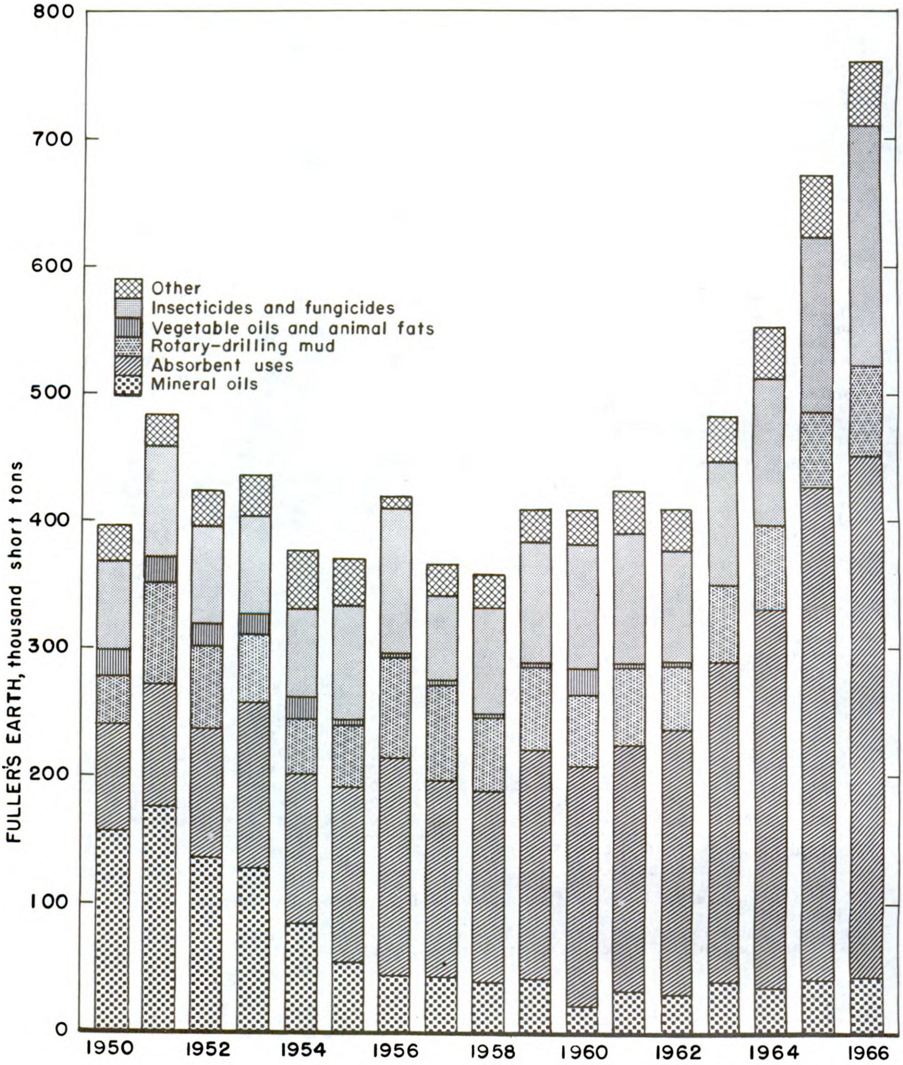

Figure 3.—Fuller's earth sold or used by producers for specific uses.

Table 10.—Clays sold or used by producers in the United States in 1966, by kinds

Uses	Kaolin	Ball clay	Fire clay and stoneware clay	Bentonite	Fuller's earth	Miscellaneous clay including slip clay	Total
Pottery and stoneware:							
Whiteware, etc.	[1] 169,893	[1] 276,859	—	—	—	—	[1] 446,752
Stoneware, art pottery, flower pots, and glaze slip	(1)	(1)	45,887	—	—	59,110	[1] 104,997
Total	169,893	276,859	45,887			59,110	551,749
Floor and wall tile	42,009	114,190	262,254	—	—	138,048	556,501
Refractories:							
Firebrick and block	907,096	(2)	3,204,677	—	—	(2)	4,159,491
Bauxite, high-alumina brick	(2)	—	104,522	—	—	—	[3] 104,522
Fire-clay mortar	(2)	(2)	(2)	—	—	(2)	177,832
Clay crucibles	—	—	(2)	—	—	—	(2)
Glass refractories	(2)	(2)	(2)	—	—	—	(2)
Foundries and steelworks	(2)	(2)	520,807	[4] 714,608	—	(2)	1,256,243
Zinc retorts	—	—	(2)	—	—	—	(2)
Saggers, pins, stilts, and wads	10,634	(2)	(2)	—	—	—	237,974
Other refractories	42,738	107,440	594,636	(4)	—	30,615	301,711
Total	960,468	107,440	4,424,642	714,608	—	30,615	6,237,773
Heavy clay products: Building brick, paving brick, drain tile, sewer pipe, and kindred products	—	(5)	3,863,512	—	—	20,250,562	[6] 24,114,074
Architectural terra cotta	(5)	—	(5)	—	—	—	(5)
Lightweight aggregates	—	—	(5)	—	—	8,395,623	[6] 8,395,623
Filler:							
Paper filling	705,830	—	—	(5)	—	—	[3] 705,830
Paper coating	1,319,598	—	—	—	(5)	—	[3] 1,319,598
Rubber	338,417	—	—	—	—	—	338,417
Paint	100,956	—	—	—	—	—	100,956
Fertilizers	63,288	—	1,902	—	—	7,816	73,006
Insecticides and fungicides	24,101	—	(2)	6,977	189,758	700	[3] 221,536
Other fillers	137,986	(5)	16,820	(5)	(5)	(5)	165,655
Total	2,690,176	(5)	18,722	6,977	189,758	8,516	2,924,998
Portland and other hydraulic cements	73,731	—	—	(5)	—	11,112,442	[6] 11,186,173
Miscellaneous:							
Filtering, decolorizing and clarifying	—	—	—	171,125	43,714	—	214,839
Rotary-drilling mud	—	—	(5)	463,342	72,241	7,146	[6] 542,729
Chemicals	(5)	—	(5)	(5)	(5)	—	155,773
Animal Feed	—	—	—	25,456	(5)	—	[6] 25,456
Absorbent uses	—	—	(5)	(5)	407,566	(5)	[6] 407,566
Enameling	(5)	(5)	—	(5)	—	—	6,523
Catalysts (oil refining)	(5)	—	—	—	—	—	(5)
Pelletizing:							
Iron ore	—	—	—	480,388	—	—	480,388
Other	—	—	—	33,498	—	—	33,498
Reservoir, pond and ditch lining	—	—	—	10,693	—	—	10,693
Other uses	449,169	72,318	125,561	154,529	46,359	158,675	833,466
Total	449,169	72,318	125,561	1,339,031	569,880	165,821	2,710,931
Grand total:							
1966	4,385,446	570,807	8,740,578	2,060,616	759,638	40,160,737	56,677,822
1965	3,603,953	590,717	9,015,649	1,887,947	674,422	[r] 39,353,564	[r] 55,126,252

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[r] Revised.

[1] Some stoneware, art pottery, etc., included with whiteware.

[2] Included with "Other."

[3] Incomplete figure; remainder included with "Other."

[4] Some "Other refractories" included with foundries.

[5] Included with miscellaneous "Other Uses."

[6] Incomplete figure; remainder included with miscellaneous "Other Uses."

Table 11.—Shipments of refractories in the United States, by kinds

Product	Unit of quantity	Shipments			
		1965		1966	
		Quantity	Value (thousands)	Quantity	Value (thousands)
Clay refractories:					
Fire-clay (including semisilica) brick and shapes, except superduty.	1,000 9-inch equivalent	307,502	$49,301	311,934	$50,375
Superduty fire-clay brick and shapes	do	85,888	25,936	91,147	26,674
High-alumina brick and shapes (50 percent Al_2O_3 and over) made substantially of calcined diaspore or bauxite.[1]	do	45,955	23,894	51,364	26,951
Insulating firebrick and shapes	do	62,203	16,249	77,638	20,268
Ladle brick	do	220,285	26,509	210,995	26,296
Sleeves, nozzles, runner brick and tuyeres.	do	49,768	12,490	51,222	12,919
Glasshouse pots, tank blocks, feeder parts and upper structure shapes used only for glass tanks.[1]	Short ton	15,518	5,273	14,572	5,284
Hot-top refractories	do	68,695	5,035	66,460	5,074
Clay-kiln furniture, radiant-heater elements, potters' supplies, and other miscellaneous shaped refractory items.		NA	8,240	NA	8,238
Refractory bonding mortars, air-setting (wet and dry types).[2]	Short ton	62,950	7,539	63,541	7,560
Refractory bonding mortars, except air-setting types.[2]	do	12,949	1,303	16,372	1,804
Ground crude fire clay, high-alumina clay and silica fire clay.	do	453,950	4,617	531,061	6,000
Plastic refractories and ramming mixes.[1]	do	192,199	17,422	201,518	18,677
Castable refractories (hydraulic-setting).	do	154,226	15,760	175,232	17,562
Insulating castable refractories (hydraulic-setting).	do	30,142	3,986	34,160	4,505
Other clay refractory materials sold in lump or ground form.[3,4]	do	195,763	5,322	199,291	5,329
Total clay refractories		XX	228,876	XX	243,516

Table 11.—Shipments of refractories in the United States, by kinds—Continued

Product	Unit of quantity	Shipments 1965 Quantity	Shipments 1965 Value (thousands)	Shipments 1966 Quantity	Shipments 1966 Value (thousands)
Nonclay refractories:					
Silica brick and shapes	1,000 9-inch equivalent	109,586	$21,109	97,244	$19,057
Magnesite and magnesite-chrome brick and shapes (magnesite predominating) (excluding molten cast and fused magnesia).	do	107,145	98,259	106,697	100,446
Chrome and chrome-magnesite brick and shapes (chrome predominating) (excluding molten cast).	do	r 33,636	26,009	34,878	27,209
Graphite crucibles, retorts, stopper heads, and other shaped refractories, containing natural graphite.	Short ton	17,728	r 13,463	19,525	14,964
Mullite brick and shapes made predominantly of kyanite, sillimanite, and alusite or synthetic mullite (excluding molten-cast).	1,000 9-inch equivalent	6,429	8,414	7,929	10,246
Extra-high alumina brick and shapes made predominantly of fused bauxite, fused or dense-sintered alumina (excluding molten-cast).	do	3,551	8,481	3,802	9,484
Silicon carbide brick and shapes made predominantly of silicon carbide.	do	3,517	11,630	3,996	12,415
Zircon and zirconia brick and shapes made predominantly of either of these materials.	do	r 1,496	4,654	1,958	5,973
Forsterite, pyrophyllite, molten-cast, dolomite, dolomite-magnesite, and other nonclay brick and shapes.		NA	37,615	26,847	40,207
Mortars:					
Basic bonding mortars (magnesite or chrome ore predominating).	Short ton	r 106,102	r 8,699	90,312	7,385
Other nonclay refractory mortars	do	42,977	5,516	41,103	5,983
Nonclay refractory castables (hydraulic-setting).	do	24,690	4,329	27,331	5,439
Plastic refractories and ramming mixes (wet and dry types):					
Basic (magnesite, dolomite, or chrome ore predominating).	do	r 172,448	r 19,383	174,787	19,691
Other nonclay plastic refractories and ramming mixes.	do	37,907	9,212	46,881	11,433
Dead-burned magnesia or magnesite.	do	195,456	12,828	137,060	8,933
Carbon refractories; brick, blocks and shapes, excluding those containing natural graphite.	do	r 358,889	r 34,152	434,441	44,969
Nonclay gunning mixes	do				
Other nonclay refractory materials sold in lump or ground form.[3]	do				
Total nonclay refractories		XX	r 323,753	XX	343,834
Grand total refractories		XX	r 552,629	XX	587,350

r Revised.
NA Not available. XX Not applicable.

[1] Excludes data for mullite and extra-high alumina refractories. These products are included with mullite and extra-high alumina brick and shapes in the nonclay refractories section.

[2] Includes data for bonding mortars which contain up to 60 percent Al_2O_3, dry basis. Bonding mortars which contain more than 60 percent Al_2O_3 dry basis are included in the nonclay refractories section.

[3] Represents only shipments by establishments classified in "manufacturing" industries, and excludes shipments to refractory producers for the manufacture of brick and other refractories.

[4] Includes data for calcined clay, ground brick, and siliceous and other gunning mixes.

Table 12.—Shipments of principal structural clay products in the United States

Product	1962	1963	1964	1965	1966
Unglazed brick (building) 1,000 standard brick	6,913,100	7,405,000	7,743,800	8,089,131	7,606,237
Value thousands	$246,500	$267,100	$284,600	$301,038	$292,914
Unglazed structural tile short tons	422,900	342,800	311,400	313,260	267,431
Value thousands	$6,600	$5,600	$5,400	$5,128	$5,317
Vitrified clay sewer pipe and fittings short tons	1,743,600	1,771,900	1,837,200	1,732,159	1,610,318
Value thousands	$91,000	$97,700	$104,000	$103,420	$96,707
Facing tile, ceramic glazed, including glazed brick 1,000-brick equivalent	370,300	352,900	332,700	307,944	292,525
Value thousands	$31,100	$28,600	$27,500	$25,430	$25,179
Facing tile, unglazed and salt glazed 1,000-tile, 8- by 5- by 12-inch, equivalent	10,800	8,500	6,900	6,327	5,207
Value thousands	$2,200	$1,700	$1,500	$1,435	$1,284
Clay floor and wall tile and accessories, including quarry tile 1,000 square feet	253,100	267,100	288,800	283,385	272,688
Value thousands	$135,500	$137,900	$146,200	$141,739	$133,266
Total value thousands	$512,900	$538,600	$569,200	$578,190	$554,667

Source: Bureau of the Census.

Table 13.—World production of china clay by countries

(Short tons)

Country [1]	1962	1963	1964	1965	1966 [p,2]
North America:					
Mexico	NA	51,325	70,796	89,436	106,473
United States	2,998,157	3,163,573	3,331,342	3,603,953	4,385,446
South America:					
Argentina	42,667	39,572	[r] 47,098	[r] 80,411	79,000
Chile	33,581	40,674	50,665	33,180	44,645
Colombia	77,000	83,000	89,000	91,000	29,000
Ecuador	416	[r] 418	[r] 370	[r] 215	982
Peru	386	[r] 58	364	430	460
Europe:					
Austria	370,809	385,088	405,781	361,203	416,320
Belgium	56,994	55,910	NA	NA	199,659
Bulgaria	67,000	85,000	91,000	[r] 105,000	[e] 110,000
Czechoslovakia	350,000	350,000	345,000	365,000	[e] 370,000
Denmark:					
Crude	[r] 8,152	[r] 13,296	8,818	[r] 7,548	16,535
Washed and pressed	3,644	7,300	NA	2,756	3,307
France [3]	264,619	299,599	316,887	[r] 325,614	NA
Germany, West (marketable)	422,262	[r] 427,414	[r] 451,371	[r] 440,462	402,674
Greece	38,535	[r] 35,324	[c] 33,000	[e] 60,600	[e] 77,000
Hungary	44,994	48,760	55,488	[r] 59,525	NA
Italy:					
Crude	96,652	109,000	[r] 107,352	[r] 78,704	NA
Kaolinic earth	133,597	111,978	[r] 103,881	[r] 51,082	76,432
Portugal:					
Crude	14,082	41,871	13,472	42,839	36,460
Washed	33,857		28,738		
Spain (crude)	184,960	228,849	155,345	NA	NA
Sweden	28,911	34,969	[r] 48,544	[r] 45,966	NA
U.S.S.R. [e]	1,500,000	1,650,000	1,650,000	1,650,000	1,650,000
United Kingdom	1,900,000	2,130,000	[r] 2,277,000	[r] 2,474,000	[e] 2,712,000
Yugoslavia	5,000	4,500	5,500	5,500	5,500
Africa:					
Ethiopia (including Eritrea)	1,100	[e] 550	[e] 550	[e] 200	NA
Kenya	1,294	7,345	1,420	1,889	984
Morocco	—	—	—	1,084	—
Mozambique	198	6	11	165	386
Nigeria	6	17	3	29	22
Rhodesia, Southern	—	12,240	21,000	NA	NA
South Africa, Republic of	31,366	37,413	43,495	45,629	44,664
Swaziland	2,743	2,211	344	830	647
Tanzania	175	201	122	NA	342
United Arab Republic (Egypt)	16,095	[r] 23,158	69,221	52,663	55,101
Asia:					
Ceylon	NA	1,120	1,653	899	1,781
Hong Kong	7,139	5,621	5,648	5,277	6,463
India [4]	429,586	550,000	570,000	647,313	709,533
Iran [5]	NA	NA	7,683	[r] 10,582	NA
Japan	79,212	109,381	118,333	[r] 98,415	117,740
Korea, South	42,101	57,609	66,729	79,635	123,717
Malaya	3,875	1,317	1,591	1,749	1,765
Pakistan	—	—	1,084	1,421	3,308
Viet-Nam, South	4,365	4,928	2,283	NA	NA
Oceania: Australia [6]	40,399	49,889	[r] 50,518	[r] 68,495	NA

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[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] China clay is also produced in Brazil, China, East Germany, Israel, Rumania, Taiwan and Thailand, and data on production are not available; a negligible quantity is produced in Malagasy and Paraguay.

[2] Compiled mostly from data available July 1967.

[3] Includes Kaolinic clay.

[4] Includes sold or used as such (both saleable and non-saleable varieties).

[5] Year ended March 20 of year following that stated.

[6] Includes ball clay.

Diatomite

Table 1.—Diatomite sold or used by producers in the United States, 3-year totals [1]

	1948–50	1951–53	1954–56	1957–59	1960–62	1963–65
Domestic production (sales)—short tons	722,670	908,448	1,105,279	1,349,340	1,446,625	1,740,833
Average value per ton	$25.55	$29.97	$39.21	$45.73	$50.08	$50.40

[1] Annual figures are company confidential.

Table 2.—Domestic consumption of diatomite, by principal use, in percent of total consumption

Use	1962	1963	1964	1965	1966
Filtration	48	47	47	44	46
Fillers	23	23	24	20	20
Insulation	5	5	4	6	5
Miscellaneous	24	25	25	30	29

Table 3.—Average annual value per ton of diatomite, by uses

Use	1965	1966
Filtration	$62.97	$63.48
Insulation	41.54	55.96
Abrasives	135.00	133.72
Fillers	55.89	51.70
Miscellaneous	28.72	34.99
Weighted average	49.94	52.44

Table 4.—U.S. exports of diatomite

Year	Short tons (thousands)	Value (thousands)
1959	71	$5,051
1960	92	6,479
1961	95	6,807
1962	109	7,960
1963	112	8,446
1964	128	9,659
1965	114	9,752
1966	144	11,500

Table 5.—World production of diatomite, by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	211	798	1,143	[r] 82	326
Costa Rica	827	[e] 2,000	[e] 4,000	[r] 3,307	[e] 3,300
Nicaragua	1,414	[e] 1,760	---	---	---
United States	[3] 482,208	[4] 580,278	[4] 580,278	[4] 580,278	[4] 580,278
South America:					
Argentina	3,741	6,256	8,567	[r] 6,719	[e] 6,600
Colombia	165	2,425	255	[r] 220	NA
Peru	1,624	2,733	[r] 2,858	[r] 3,081	NA
Europe:					
Austria	4,613	4,339	4,224	[r] 4,447	4,138
Denmark:					
Diatomite [e]	22,000	22,000	[r] 20,400	[r] 13,800	NA
Moler [e] [5]	230,800	212,000	[r] 210,750	[r] 235,000	225,000
Finland	1,323	2,535	2,392	[r] 1,047	[e] 1,100
France [6]	140,093	146,304	[r] 146,699	[e] 146,600	NA
Germany, West (marketable) [6]	67,792	47,289	[r] 52,737	[r] 58,005	[e] 55,120
Italy	62,379	65,509	[e] 66,140	[e] 66,140	NA
Portugal [6]	1.598	2,067	2,207	[r] 2,896	[e] 2,870
Spain [6]	13,352	11,229	[e] [r] 12,500	[e] [r] 12,600	NA
Sweden (marketable) [7]	252	400	[r] 239	[r] 441	NA
U.S.S.R. [e]	330,000	340,000	340,000	350,000	360,000
United Kingdom	22,412	15,946	[r] 15,363	[e] [r] 15,400	NA
Yugoslavia	4,960	[e] 11,600	[e] 11,600	[e] 11,600	NA
Africa:					
Algeria	30,565	[r] 19,454	[r] 22,163	[r] 18,092	[e] 18,100
Kenya	3,207	3,677	3,368	[r] 2,445	1,953
Mozambique	386	---	---	---	---
Rhodesia, Southern [6]	423	301	347	[e] 530	NA
South Africa, Republic of	647	220	546	[r] 1,076	[e] 170
United Arab Republic (Egypt)	55	916	[8] 44,080	[8] 80,375	[e] [8] 80,500
Asia: Korea, South	758	1,916	41,031	[r] 638	303
Oceania:					
Australia	8,189	6,533	9,780	[r] 8,035	[e] 7,700
New Zealand	2,099	1,796	1,881	[r] 1,937	5,218
World total [e]	1,665,000	1,740,000	[r] 1,835,000	[r] 1,850,000	1,900,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Diatomaceous earth is produced in Brazil, Bulgaria, and Japan, but data on output are not available, estimates are included in total. Hungary and Rumania may produce diatomaceous earth but data are not available and no estimates are included in total.

[2] Compiled mostly from data available April 1967.

[3] Average annual production 1960–62.

[4] Average annual production 1963–65.

[5] Data represents estimates of moler earth used as a raw material in making refractory bricks plus moler earth exported in bulk form.

[6] Includes tripoli.

[7] Includes calcined.

[8] Includes refractory clay.

Feldspar and Nepheline Syenite

Table 1.—Salient feldspar statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Crude:						
Sold or used by producers____long tons__	503,075	492,476	548,954	587,194	624,598	685,592
Value ___thousands__	$4,897	$5,076	$5,524	$5,389	$6,263	$7,192
Imports for consumption______long tons__	52	33	68	10	16	______
Value ___thousands__	$5	$1	$2	$1	$2	______
Consumption, apparent [1] ___long tons__	503,127	492,509	549,022	587,204	624,614	685,592
Ground:						
Sold by merchant mills short tons__	520,570	527,347	598,706	646,974	664,138	703,587
Value ___thousands__	$7,007	$6,703	$7,353	$7,644	$7,757	$8,944
Imports for consumption______long tons__	5,044	3,297	3,006	3,170	3,439	3,243
Value ___thousands__	$84	$87	$81	$85	$92	$86
World: Production thousand long tons__	1,392	1,600	1,710	1,845	1,930	2,015

[1] Measured by quantity sold or used by producers plus imports.

Table 2.—Crude feldspar sold or used by producers in the United States

Year	Derivation of feldspar [1]							
	Hand-cobbed		Flotation concentrate		Feldspar-silica mixtures [2]		Total	
	Long tons	Value (thousands)	Long tons	Value (thousands)	Long tons	Value (thousands)	Long tons	Value (thousands)
1957–61 (average) ______	172,035	$1,345	261,298	$2,895	69,742	$657	503,075	$4,897
1962 ____________________	113,168	783	324,462	3,806	54,846	487	492,476	5,076
1963 ____________________	93,488	643	364,676	3,885	90,790	996	548,954	5,524
1964 ____________________	88,046	804	380,787	3,367	118,361	1,218	587,194	5,389
1965 ____________________	126,811	1,072	369,585	3,974	128,202	1,217	624,598	6,263
1966 ____________________	147,076	1,171	407,450	4,802	131,066	1,219	685,592	7,192

[1] Partly estimated.
[2] Feldspar content.

Table 3.—Ground feldspar sold by merchant mills [1] in the United States

Year	Mills	Domestic feldspar		Year	Mills	Domestic feldspar	
		Short tons	Value (thousands)			Short tons	Value (thousands)
1957–61 (average) ____	24	[2] 520,570	[2] $7,007	1964 ________________	20	646,974	$7,644
1962 ________________	21	527,347	6,703	1965 ________________	20	664,138	7,757
1963 ________________	22	598,706	7,353	1966 ________________	19	703,587	8,944

[1] Excludes potters and others who grind for consumption in their own plants.
[2] Includes Canadian feldspar, 1958–1960.

Table 4.—Ground feldspar sold by merchant mills in the United States, by derivation [1] and uses

(Short tons)

	1962	1963	1964	1965	1966
Hand-cobbed:					
Glass	26,323	6,863	W	W	W
Pottery	45,612	58,497	51,703	32,535	54,678
Other	45,650	39,128	45,952	75,055	61,090
Total [2]	117,585	104,488	97,655	107,590	115,768
Flotation concentrate:					
Glass	215,941	240,783	255,907	256,000	284,759
Pottery	96,828	W	W	W	W
Other	35,605	151,777	163,548	162,014	200,655
Total [2]	348,374	392,560	419,455	418,014	485,414
Feldspar-silica mixtures: [3]					
Glass	50,993	65,541	W	W	W
Pottery	4,726	W	W	W	W
Other	5,669	36,117	129,864	138,534	102,405
Total [2]	61,388	101,658	129,864	138,534	102,405
Grand total: [4]					
Glass	293,257	313,187	349,715	368,120	381,628
Pottery	147,166	195,510	189,853	174,537	207,209
Enamel	27,391	24,068	21,925	42,268	36,151
Other	59,533	65,941	85,481	79,213	78,599
Total	527,347	598,706	646,974	664,138	703,587

W Withheld to avoid disclosing individual company confidential data; included with "Other."

[1] Partly estimated.

[2] Excludes enamel, included with "Grand total."

[3] Feldspar content.

[4] "Other" includes soaps, abrasives, and other ceramic and miscellaneous uses.

Table 5.—Ground feldspar shipped from merchant mills in the United States

(Short tons)

Destination	1962	1963	1964	1965	1966
California	79,075	78,164	120,804	111,174	109,126
Illinois	46,283	49,822	73,967	66,160	63,038
Indiana	19,139	20,688	20,998	W	W
Kentucky	W	W	W	3,775	7,052
Maryland	11,748	11,636	W	W	W
Massachusetts	4,603	4,231	4,407	4,787	3,980
New Jersey	53,640	62,336	58,089	57,096	71,057
New York	21,696	23,631	22,117	26,037	W
Ohio	76,287	122,242	80,119	87,873	70,294
Pennsylvania	34,843	40,567	37,805	30,281	30,628
Tennessee	W	W	W	33,851	36,002
Texas	22,502	W	W	W	26,183
West Virginia	W	18,714	26,638	W	W
Other destinations [1]	157,531	166,675	202,030	r 243,104	286,227
Total	527,347	598,706	646,974	664,138	703,587

r Revised.

W Withheld to avoid disclosing individual company confidential data; included with "Other destinations."

[1] Includes Alabama (1962); Arkansas; Colorado; Connecticut; Georgia (1963–65); Idaho (1965); Kansas (1966); Kentucky (1962–64); Louisiana, Michigan; Minnesota; Mississippi; Missouri; New Hampshire (1966); Oklahoma; Rhode Island; South Carolina (1962–65); Vermont (1962–65); Virginia (1966); Washington (1962 and 1964); Wisconsin; shipments that cannot be separated by States; and shipments indicated by symbol W. Also includes exports to Africa (1965–66); Canada; England (1962); Mexico; Panama; Philippines (1963–64 and 1966); Venezuela (1962–63); and small quantities to other countries.

Table 6.—U.S. imports for consumption of feldspar [1]

Year	Crude		Ground	
	Long tons	Value (thousands)	Long tons	Value (thousands)
1957–61 (average)	52	$5	5,044	$84
1962	33	1	3,297	87
1963	68	2	3,006	81
1964	10	$1	3,170	$85
1965	16	2	3,439	92
1966	--	--	3,243	86

[1] All from Canada, except 39 long tons ($1,724) of ground feldspar from Norway in 1963 and 30 long tons ($1,255) in 1964, and 1 long ton ($1,460) from Republic of South Africa in 1965.

Table 7.—World production of feldspar by countries [1]

(Long tons)

Country [1]	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada (shipments)	8,923	7,686	8,169	[r] 9,736	14,196
Guatemala	NA	NA	NA	NA	700
United States (sold or used)	492,476	548,954	587,194	624,589	685,597
South America:					
Argentina	7,245	12,599	[r] 9,127	[r] 19,822	[e] 20,000
Brazil [e]	39,000	39,000	39,000	39,000	39,000
Chile	1,138	417	814	408	1,099
Colombia	15,250	12,300	[r] 11,430	14,600	18,700
Peru	287	217	837	926	470
Uruguay	692	282	883	1,227	[e] 1,200
Europe:					
Austria	4,976	2,077	1,603	1,397	1,507
Finland	14,921	12,618	10,561	11,685	8,858
France	[3] 170,194	[3] 170,764	[3] 193,260	[r] [3] 217,649	[e] 200,000
Germany, West	269,770	[r] 273,665	[r] 299,990	[r] 313,281	314,642
Italy	98,367	100,487	[r] 109,852	90,803	135,921
Norway	54,100	65,000	65,300	67,900	[e] 69,000
Poland	NA	26,300	[e] 26,300	[e] 26,300	[e] 27,600
Portugal	3,674	396	10,994	[r] 8,165	[e] 8,200
Spain	10,728	12,401	16,466	[e] 15,000	[e] 15,000
Sweden	53,348	44,920	[r] 50,959	[r] 46,258	[e] 46,000
U.S.S.R. [e]	195,000	195,000	195,000	195,000	195,000
Yugoslavia	31,578	29,413	33,260	[r] 55,052	64,466
Africa:					
Angola	--------	796	493	--------	--------
Ethiopia (including Eritrea)	425	[e] 490	[e] 9,800	--------	--------
Kenya	--------	--------	--------	--------	161
Malagasy Republic	--------	(4)	1	(4)	--------
Mozambique	--------	--------	--------	49	NA
Rhodesia, Southern	--------	--------	--------	[e] 167	NA
South Africa, Republic of	28,209	41,372	35,525	41,636	33,996
South-West Africa	465	2,197	1,893	2,281	1,178
United Arab Republic (Egypt)	--------	--------	4,653	[e] [r] 4,000	3,444
Asia:					
Ceylon	56	109	49	605	412
Hong Kong	937	1,680	1,556	1,119	1,343
India	18,918	20,901	[r] 23,997	23,829	25,593
Japan [5]	46,991	53,339	61,445	[r] 57,245	50,645
Korea, South	4,651	11,392	13,468	[r] 15,595	15,053
Pakistan	55	[r] 1,220	48	--------	--------
Philippines	15,325	6,564	7,924	12,095	8,479
Oceania: Australia	8,513	8,842	9,012	[r] 8,724	[e] 6,700
World total [e]	1,600,000	1,710,000	[r] 1,845,000	[r] 1,930,000	2,015,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Feldspar is produced in China, Czechoslovakia, and Rumania, but data are not available; no estimates included in total except for Czechoslovakia.

[2] Compiled mostly from data available May 1967.

[3] Includes pegmatite.

[4] Less than ½ unit.

[5] In addition, the following quantities of aplite and other feldspathic rock were produced: 1962, 168,543 tons; 1963, 211,814 tons; 1964, 258,510 tons; 1965, 281,759 tons; 1966, 292,369 tons.

Table 8.—U.S. imports for consumption of nepheline syenite

Year	Crude		Ground		Year	Crude		Ground	
	Long tons	Value (thousands)	Long tons	Value (thousands)		Long tons	Value (thousands)	Long tons	Value (thousands)
1957–61 (average)	607	$12	179,546	$2,312	1964	---	--	205,695	$2,320
1962	---	--	188,833	2,085	1965	111	$2	216,860	2,442
1963	272	5	196,567	2,109	1966	205	3	253,230	2,871

Fluorspar and Cryolite

Table 1.—Salient fluorspar statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Crude:						
Mine production short tons	655,055	623,750	586,158	620,474	772,765	737,411
Material milled or washed do	626,080	586,700	586,400	624,745	825,867	796,418
Beneficiated material recovered short tons	247,880	192,000	188,200	202,300	236,800	250,200
Finished (shipments) do	252,122	206,026	199,948	217,137	240,932	253,068
Value thousands	$11,772	$9,166	$9,001	$9,723	$10,889	$10,841
Exports short tons	1,214	1,308	1,202	3,702	9,385	5,782
Value thousands	$82	$119	$157	$158	$315	$301
Imports for consumption short tons	528,812	595,695	559,653	687,933	816,546	878,546
Value thousands	$13,443	$15,596	$14,192	$16,882	$19,958	$21,968
Consumption short tons	612,119	652,888	736,350	831,561	930,127	1,065,124
Stocks Dec. 31:						
Domestic mines:						
Crude short tons	187,472	277,876	299,197	299,109	274,011	207,338
Finished do	18,885	14,549	14,954	10,174	19,664	26,589
Consumer plants do	199,559	186,772	181,934	203,014	235,657	254,726
World: Production do	2,090,000	2,370,000	2,380,000	2,780,000	3,110,000	3,280,000

Table 2.—Shipments of finished fluorspar, by States

State	1965			1966		
		Value			Value	
	Short tons	Total	Average per ton	Short tons	Total	Average per ton
Illinois	159,140	$7,861,165	$49.40	176,175	$8,001,803	$45.42
Kentucky	31,992	1,484,772	46.41	28,725	1,360,870	47.38
Other States [1]	49,800	1,543,015	30.98	48,168	1,478,132	30.69
Total	240,932	10,889,000	45.20	253,068	10,841,000	42.84

[1] Includes Colorado, Montana, Nevada, and Utah to avoid disclosing individual company confidential data.

Table 3.—Fluorspar shipped from mines in the United States, by grades and industries

Grade and industry	1965				1966			
	Quantity		Value		Quantity		Value	
	Short tons	Percent of total [r]	Total (thousands)	Average per ton	Short tons	Percent of total	Total (thousands)	Average per ton
Ground and flotation concentrates:								
Hydrofluoric acid	103,495	52.4	$5,602	$54,13	112,967	52.9	$5,406	$47.86
Glass	30,990	15.7	1,329	42.90	29,748	13.9	1,301	43.75
Ceramic and enamel	[r] 5,631	2.9	[r] 233	[r] 41.34	5,918	2.8	247	41.80
Nonferrous	3,584	1.8	156	43.71	5,043	2.4	225	44.60
Ferrous	33,163	16.8	1,437	43.33	52,294	24.5	2,287	43.72
Miscellaneous [1]	20,568	10.4	914	44.44	7,410	3.5	319	42.98
Total	[r] 197,431	100.0	[r] 9,671	[r] 48.98	213,380	100.0	9,785	45.86
Fluxing gravel and foundry lumps:								
Nonferrous	17	---	1	41.00	5	---	(2)	41.00
Ferrous	[r] 33,126	76.2	[r] 1,055	[r] 31.84	28,826	72.6	897	31.10
Miscellaneous	10,358	23.8	162	15.66	10,857	27.4	159	14.65
Total	[r] 43,501	100.0	[r] 1,218	[r] 28.00	39,688	100.0	1,056	27.00

[r] Revised.
[1] Includes exports.
[2] Less than ½ unit.

Table 4.—Fluorspar (domestic and foreign) consumed and in stock in the United States, by grades and industries

(Short tons)

Grade and industry	1965		1966	
	Consumption	Stocks at consumer plants Dec. 31	Consumption	Stocks at consumer plants Dec. 31
Acid grade:				
Hydrofluoric acid	490,345	40,763	572,727	60,632
Glass	6,053	549	6,692	760
Enamel	226	50	279	48
Welding rod coatings	2,946	239	3,173	275
Special flux	2,719	1,201	1,875	938
Ferroalloys				
Primary aluminum				
Total	502,289	42,802	584,746	62,653
Ceramic grade:				
Glass	23,230	2,721	22,647	2,537
Enamel	4,749	603	5,395	731
Welding rod coatings [1]	3,481	77	3,947	160
Nonferrous	299	44	217	53
Special flux	6,540	1,439	7,227	1,733
Ferroalloys				
Total	38,299	4,884	39,433	5,214
Metallurgical grade:				
Glass	608	25	586	62
Enamel	-----	-----	-----	-----
Nonferrous [2]	11,684	1,539	11,208	3,246
Special flux	1,687	2,528	1,389	2,829
Ferroalloys				
Primary magnesium				
Iron foundry	20,664	4,173	22,490	2,527
Open-hearth steel	162,200	179,706	150,310	178,195
Basic oxygen steel	139,240		198,476	
Electric-furnace steel	53,456		56,486	
Total	389,539	187,971	440,945	186,859
All grades:				
Hydrofluoric acid	490,345	40,763	572,727	60,632
Glass	29,891	3,295	29,925	3,359
Enamel	4,975	653	5,674	779
Welding rod coatings	6,427	316	7,120	435
Nonferrous	11,983	1,583	11,425	3,299
Special flux	4,949	1,274	5,650	1,592
Ferroalloys	2,202	470	2,321	379
Primary aluminum	3,795	3,424	2,520	3,529
Primary magnesium				
Iron foundry	20,664	4,173	22,490	2,527
Open-hearth steel	162,200	179,706	150,310	178,195
Basic oxygen steel	139,240		198,476	
Electric furnace steel	53,456		56,486	
Total	930,127	235,657	1,065,124	254,726

[1] Includes metallurgical grade to avoid disclosing individual company confidential data.

[2] Includes a small amount of acid grade to avoid disclosing individual company operations.

The following are yearend prices of principal fluorspar grades, as reported in the E&MJ Metal and Mineral Market prevailing Jan. 1, 1967:

	Per short ton
Domestic:	
Metallurgical grade, 72½ percent, effective CaF_2, f.o.b. Illinois	\$37.00 to \$39.00
Acid grade concentrates, dry basis, 97 percent CaF_2, f.o.b. Illinois, carloads	49.00
Less than carloads, Illinois	54.00
Bags, extra	4.00
Ceramic grade, 95 percent CaF_2	47.00
European:	
Acid-grade, duty paid, dry basis	42.50 to 43.50
Mexican:	
Metallurgical grade, 72½ percent, effective CaF_2:	
Border, all rail, duty paid	30.10
Brownsville, Tex., barge, duty paid	32.90
Tampico, Mexico, vessel cargo lots	22.90
Acid, 97 percent, Eagle Pass, bulk	38.00

Table 5.—Fluorspar (domestic and foreign) consumed in the United States, by States

(Short tons)

State	1965	1966
Alabama, Georgia, and North Carolina	10,336	12,605
Arkansas, Kansas, Louisiana Mississippi, and Oklahoma	132,674	140,459
California	39,844	45,412
Colorado and Utah	26,463	28,361
Connecticut	1,680	1,148
Delaware and New Jersey	77,047	89,270
Florida, Rhode Island, and Virginia	1,331	1,439
Illinois	56,697	56,772
Indiana	28,855	42,473
Iowa, Minnesota, Nebraska, and Wisconsin	4,576	3,713
Kentucky	49,122	56,271
Maryland	8,742	19,187
Massachusetts	254	355
Michigan	57,816	73,846
Missouri	3,599	2,732
New York and Vermont [1]	19,041	24,603
Ohio	83,960	101,088
Oregon and Washington	1,859	1,571
Pennsylvania	103,140	98,336
Tennessee	1,960	2,413
Texas	179,489	221,286
West Virginia	41,642	41,784
Total	930,127	1,065,124

[1] 1966 only.

Table 6.—Stocks of fluorspar at mines or shipping points in the United States, by States, Dec. 31

(Short tons)

State	1965		1966	
	Crude	Finished	Crude	Finished
Illinois	250,412	15,474	179,642	21,284
Kentucky	W	---	1,283	---
Other States [1]	23,599	4,190	26,413	5,305
Total	274,011	19,664	207,338	26,589

W Withheld to avoid disclosing individual company confidential data: included with "Other States."
[1] Includes Colorado, Montana, Nevada, and Utah to avoid disclosing individual company confidential data.

Table 7.—U.S. exports of fluorspar

Year	Short tons	Value (thousands)
1957–61 (average	1,214	\$82
1962	1,308	119
1963	1,202	157
1964	3,702	158
1965	9,385	315
1966	5,732	301

Table 8.—U.S. imports for consumption of fluorspar, by countries and customs districts

Country and customs district	1965				1966			
	Containing more than 97 percent calcium fluoride		Containing not more than 97 percent calcium fluoride		Containing more than 97 percent calcium fluoride		Containing not more than 97 percent calcium fluoride	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Canada:								
Buffalo	---	---	---	---	---	---	6,330	$134
Detroit	---	---	9,156	$200	---	---	20	(1)
El Paso	7	$(1)	---	---	465	$10	---	---
Seattle	---	---	---	---	12	1	---	---
Total	7	(1)	9,156	200	477	11	6,350	134
Greenland: El Paso	---	---	---	---	---	---	503	10
Mexico:								
Baltimore	---	---	7,389	136	---	---	---	---
Boston	---	---	---	---	---	---	107	2
Buffalo	---	---	7,043	158	---	---	11,977	260
Cleveland	---	---	20,479	416	---	---	24,648	542
Detroit	---	---	14,199	321	26	1	21,123	487
El Paso	61,610	1,539	87,929	1,757	60,711	1,518	69,524	1,387
Galveston	804	26	5,226	87	---	---	---	---
Houston	---	---	---	---	241	5	---	---
Laredo	213,769	5,757	63,702	1,129	253,924	6,616	77,664	1,105
Miami	---	---	---	---	277	7	---	---
Mobile	---	---	5,756	95	---	---	9,139	165
New Orleans	43,651	1,230	67,157	1,320	37,163	1,038	96,883	2,362
Norfolk	---	---	---	---	---	---	1,928	35
Pembina	254	6	---	---	---	---	---	---
Philadelphia	14,223	351	17,936	385	4,144	105	11,237	229
St. Louis	545	13	---	---	382	8	---	---
San Diego	134	4	---	---	---	---	93	2
San Francisco	561	18	---	---	---	---	---	---
Total	335,551	8,944	296,816	5,804	356,868	9,298	324,323	6,576
France: Detroit	3,599	91	---	---	---	---	---	---
Italy:								
Detroit	---	---	---	---	5,408	148	---	---
Galveston	7,060	211	---	---	6,419	245	---	---
New Orleans	8,946	211	---	---	21,768	585	---	---
Philadelphia	16,369	452	---	---	19,045	521	---	---
Total	32,375	874	---	---	52,640	1,499	---	---

Table 8.—U.S. imports for consumption of fluorspar, by countries and customs districts—Continued

Country and customs district	1965				1966			
	Containing more than 97 percent calcium fluoride		Containing not more than 97 percent calcium fluoride		Containing more than 97 percent calcium fluoride		Containing not more than 97 percent calcium fluoride	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Spain:								
Cleveland	22,272	673	---	---	19,292	740	---	---
Detroit	11,227	378	---	---	4,837	120	---	---
Galveston	---	---	---	---	6,806	202	---	---
New Orleans	17,806	447	---	---	---	---	---	---
Philadelphia	58,535	1,808	---	---	89,324	3,062	---	---
Total	109,840	3,306	---	---	119,759	4,124	---	---
Sweden: Laredo	---	---	---	---	---	---	44	1
United Kingdom:								
Cleveland	4,761	143	---	---	---	---	---	---
New York	22	2	---	---	---	---	---	---
San Juan	251	10	---	---	53	2	---	---
Total	5,034	155	---	---	53	2	---	---
South Africa, Republic of:								
Baltimore	---	---	6,263	86	---	---	13,730	234
Philadelphia	---	---	---	---	---	---	3,752	78
Total	---	---	6,263	86	---	---	17,482	312
Japan:								
Detroit	---	---	8,833	207	---	---	47	1
Philadelphia	9,072	291	---	---	---	---	---	---
Total	9,072	291	8,833	207	---	---	47	1
Grand total	495,478	13,661	321,068	6,297	529,797	14,934	348,749	7,034

[1] Less than ½ unit.

Table 9.—World production of fluorspar, by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada [e]	75,000	85,000	96,000	[r] 112,000	97,000
Mexico	553,642	530,893	708,644	[r] 810,618	799,602
United States (shipments)	206,026	199,948	217,137	240,932	253,068
South America: Argentina	13,799	10,761	[r] 12,703	[r] 12,883	10,472
Europe:					
France	[3] 154,064	[3] 160,307	[3] 215,119	[r] 215,573	[e] 265,000
Germany:					
East [e]	80,000	80,000	80,000	90,000	90,000
West (marketable)	116,592	[r] 115,272	[r] 98,960	[r] 91,402	101,912
Italy	176,709	148,407	[r] 137,449	162,990	226,143
Spain (marketable)	165,356	169,094	164,995	[r] 234,109	264,004
Sweden (sales)	3,855	3,253	---	---	---
United Kingdom [4]	[r] 80,358	[r] 97,554	[r] 172,512	[r] 191,251	203,927
Africa:					
Morocco	546	7,000	7,242	3,307	[e] 3,300
Rhodesia, Southern	20	343	77	[e] 165	NA
South Africa, Republic of	111,683	57,761	66,431	72,517	90,266
South-West Africa	240	480	---	---	---
Tunisia	---	---	---	5,500	6,600
Asia:					
China, mainland [e]	220,000	220,000	220,000	240,000	250,000
India	724	780	429	607	1,178
Japan	17,120	23,037	21,078	[r] 18,205	[e] 17,600
Korea:					
North [e]	33,000	33,000	33,000	33,000	33,000
South	36,343	43,855	62,167	43,174	35,283
Mongolia	41,800	54,000	[e] 62,800	[e] [r] 82,700	[e] 82,700
Thailand	11,806	32,221	70,039	57,132	52,941
Turkey	640	719	1,436	1,187	1,659
U.S.S.R. [e] [5]	265,000	300,000	330,000	385,000	385,000
Oceania: Australia	---	17	---	---	---
World total [e]	2,370,000	[r] 2,380,000	[r] 2,780,000	[r] 3,110,000	3,280,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Fluorspar is also produced in Brazil and Bulgaria, data not available; estimate included in total for Bulgaria.

[2] Compiled mostly from data available July 1967.

[3] Marketable.

[4] Includes mineral obtained from some old mine dumps for which returns are available.

[5] U.S.S.R. in Europe included with U.S.S.R. in Asia, as the deposits are predominantly in Asiatic U.S.S.R.

Table 10.—International fluorspar trade in 1965

(Short tons)

Producing country	Exports	Principal destination
Bulgaria	[1] 1,009	All to West Europe.
Canada	9,575	Do.
China, mainland	[1] 178,368	East Europe 73,469, Japan 68,806, West Europe 36,093.
France	95,164	West Europe 86,691, United States 4,044, East Europe 3,294, Africa 1,124.
Germany:		
East	[1] 25,531	East Europe 20,734, West Europe 4,797.
West	11,682	West Europe 10,599, East Europe 899.
Italy	57,834	United States 39,652, West Europe 10,837, Japan 5,880, East Europe 1,324.
Japan	267	All to Asia.
Korea:		
North	[1] 4,011	All to Japan.
South	35,855	Japan 33,706, Taiwan 1,339, Philippines 678.
Mexico	750,825	United States 636,085, Canada 114,551, Japan 134.
Mongolia	[1] 61,950	All to East Europe.
Morocco	1,593	Do.
South Africa, Republic of	51,796	West Europe [1] 20,457, Japan [1] 17,442, United States [1] 6,263.
Spain	170,383	United States 121,357, West Europe 42,018, Japan 5,357, East Europe 996.
Thailand	51,800	Japan 50,133, India 1,081, Taiwan 474, Australia 112.
United States	9,429	Canada 9,241, Asia 65, South America 41, West Europe 27.

[1] From import detail of customs returns of the respective country.

Table 11.—Fluorspar producers in Mexico

Company	Location	Annual capacity, thousand metric tons
Acid grade:		
Cia. Industrial de Fluorita, S.A.	Nacozari de Garcia, Sonora	NA
	Parral, Chihuahua	NA
Cia. Minera Rio Colorado, S.A.	Victoria, Guanajuato	40
Fluoresqueda, S.A.[1]	Fronteras, Sonora	40
Fluorita de Mexico, S.A.	Muzquiz, Coahuila	120
La Domincia, S.A. de C.V.	Ciudad Acuna, Coahuila	60
Minera Frisco, S.A.	San Francisco del Oro, Chihuahua	NA
	Santa Barbara, Chuhuahua	60
Reynolds Fluorspar, S.A.	(2)	70
Metallurgical grade:		
Arturo Santiesteban Flores	Ciudad Acuna, Coahuila	NA
Cia. Minera Beatriz, S.R.L. de C.V.	Muzquiz, Coahuila	NA
	Ocampo, Coahuila	NA
Cia. Minera Las Cuevas, S.A.	Zaragoza, San Luis Potosi	120
Cia. Minera La Valenciana, S.A.	General Cepeda, Coahuila	NA
	Mapimi, Durango	NA
	Rio Verde, San Luis Potosi	15
Cia. Minera Los Cavos, S.A.	Victoria, Guanajuato	35
Cia. Minera Ocampo, S.A.	Zaragoza, Coahuila	NA
Cia. Minera Rio Colorado	Ciudad Fernandez, San Luis Potosi	25
	Victoria, Guanajuato	NA
Fluorita de Rio Verde, S.A.	Victoria, Guanajuato	75
Ing. Jose Miguel Salcido Reyes	Ciudad Acuna, Coahuila	NA
La Domincia, S.A. de C.V.	Ciudad Acuna, Coahuila	25
Minerales de Fluorita, S.A. de C.V.	Ciudad Acuna, Coahuila	NA
Minerales Pennsalt, S.A. de C.V.	Zaragoza, San Luis Potosi	60
Minerales y Prod. Metalurgicos, S.A.	Rodeo, Durango	NA
Minera Potosina, S.A. de C.V.	Asientos, Durango	(3)
	Cedral, San Luis Potosi	NA
Restauradora de Minas, S.A.[1]	Taxco, Guerrero	NA

NA Not available.

[1] Inactive.

[2] Operates in the United States using ore from Cuatro Cienegas and Ciudad Acuna, Coahuila.

[3] About 8,000 tons per month of mill feed ore.

Source: Department of State Airgram A-416, Oct. 16, 1965—Mexico City.

Table 12.—U.S. imports for consumption of cryolite

Year and country	Short tons	Value (thousands)
1963	26,915	$1,808
1964	24,264	1,765
1965:		
North America: Greenland[1]	18,026	793
Europe:		
France	200	35
Germany, West	150	51
Italy	5,332	1,068
Spain	303	62
Total	24,011	2,009
1966:		
North America: Greenland[1]	16,693	728
Europe:		
Denmark	2,352	107
France	6,622	1,154
Germany, West	66	23
Italy	4,961	1,025
Switzerland	44	15
South Africa, Republic of: Guinea	917	147
Total	31,655	3,199

[1] Crude natural cryolite.

Gem Stones

Table 1.—U.S. imports for consumption of precious and semiprecious stones, exclusive of industrial diamond

Stones	1965 Quantity (thousands)	1965 Value (thousands)	1966 Quantity (thousands)	1966 Value (thousands)
Diamond:				
Rough or uncut, suitable for cutting into gem stones ....carats..	1,901	$175,457	2,032	$208,039
Cut but unset, suitable for jewelry ....do	1,259	131,828	1,452	165,737
Emerald: Cut but unset ....do	190	5,397	220	6,025
Rubies and sapphires: cut but unset suitable for jewelry	NA	4,769	NA	7,163
Marcasites: Real and imitation, dutiable	NA	3	NA	5
Pearls and parts, not strung or set:				
Natural	NA	592	NA	733
Cultured or cultivated	NA	21,674	NA	21,236
Imitation	NA	415	NA	506
Other precious or semiprecious stones:				
Rough or uncut	NA	2,728	NA	2,483
Cut but unset	NA	r 3,630	NA	4,972
Other n.s.p.f.	NA	218	NA	320
Imitation:				
Cut but unset, synthetic ....number..	2,526	1,007	2,699	1,178
Other	NA	r 6,131	NA	8,341
Total	NA	r 353,849	NA	426,738

r Revised. NA Not available.

Table 2.—U.S. imports for consumption of diamond (exclusive of industrial diamond), by countries

(Thousand carats and thousand dollars)

Country	1965				1966			
	Rough or uncut		Cut but unset		Rough or uncut		Cut but unset	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Belgium-Luxembourg								
Brazil	75	$7,597	680	$73,923	72	$9,520	787	$94,353
British West Africa	4	293	1	97	4	425	----	------
Canada	----	------	----	------	2	325	----	------
Central African Republic	7	1,138	(1)	44	10	1,663	(1)	16
France	144	8,365	----	------	187	9,835	----	------
Germany, West	2	70	16	1,665	3	211	18	1,902
Ghana	----	------	19	1,370	(1)	1	17	1,441
Guinea	3	146	(1)	16	20	464	----	------
Guyana	2	205	----	------	1	66	----	------
India	19	742	----	5	25	995	(1)	8
Ireland	----	------	2	342	----	------	8	720
Israel	4	71	(1)	3	56	2,248	2	101
Japan	57	3,310	473	42,134	36	3,096	525	51,446
Liberia	(1)	8	1	142	(1)	6	1	78
Netherlands	7	674	----	------	16	1,831	----	------
Sierra Leone	34	4,094	21	2,835	49	8,825	21	3,013
South Africa, Republic of	44	2,818	----	------	161	7,705	(1)	53
Switzerland	159	15,330	27	6,166	121	13,023	28	7,001
U.S.S.R.	104	9,879	1	633	69	8,504	1	422
United Kingdom	----	------	11	1,410	----	------	29	3,391
Venezuela	1,142	113,481	6	857	1,106	131,809	10	1,354
Western Africa, n.e.c.[2]	54	1,950	----	------	66	2,525	----	------
Western Portuguese	35	4,903	----	------	21	3,446	----	------
Africa, n.e.c.	2	124	----	------	7	1,445	----	------
Other countries	3	259	1	186	(1)	71	5	438
Total	1,901	175,457	1,259	131,828	2,032	208,039	1,452	165,737

[1] Less than ½ unit.
[2] Not elsewhere classified.

Table 3.—World production of gem diamond, by countries

(Thousand carats)

Country	1965	1966
Africa:		
Angola	878	964
Central African Republic	268	270
Congo (Brazzaville)[1][2][e]	318	318
Congo (Kinshasa)	14	15
Ghana	225	282
Guinea[e]	21	21
Ivory Coast	[r] 119	110
Liberia[e]	277	343
Sierra Leone	658	629
Republic of South Africa:		
Pipe mines:		
Premier	[r] 610	625
De Beers group[3]	[r] 985	1,429
Other	[r] 123	131
Alluvial	[r] 230	300
South-West Africa	[r] 1,491	1,583
Tanzania	414	473
Total Africa	[r] 6,631	7,493
Other countries:		
Brazil[e]	175	150
Guyana	45	37
India	4	2
U.S.S.R.[e]	300	300
Venezuela	46	42
World total[4]	7,201	8,024

[e] Estimated. [r] Revised.
[1] Exports.
[2] Probable origin, Congo (Kinshasa).
[3] Includes some alluvial from De Beers Properties.
[4] Does not include minor world production.

Graphite

Table 1.—Salient graphite statistics

		1957–61 (average)	1962	1963	1964	1965	1966
United States:							
Consumption	short tons	36,600	44,400	47,000	54,000	47,100	48,400
Value	thousands	$4,872	$5,648	$6,111	$7,026	$6,390	$6,629
Imports for consumption	short tons	36,700	39,500	52,200	47,200	58,100	56,700
Value	thousands	$1,584	$1,783	$2,000	$1,943	$2,387	$2,545
Exports	short tons	1,500	1,200	900	2,000	3,200	3,200
Value	thousands	$237	$223	$190	$333	$419	$428
World: Production	short tons	421,000	590,000	780,000	695,000	680,000	545,000

Table 2.—Consumption of natural graphite in the United States in 1966, by uses

Use	Crystalline flake		Ceylon amorphous		Other amorphous [1]		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Batteries	W	W	W	W	1,042	$218,300	1,042	$218,300
Bearings	W	W	W	W	128	54,800	128	54,800
Brake linings	368	$97,100	204	$50,200	1,118	178,900	1,690	326,200
Carbon brushes	234	120,000	397	214,500	228	37,900	859	372,400
Crucibles, retorts, stoppers, sleeves, and nozzles	[2] 4,644	742,100	---	---	W	W	4,644	742,100
Foundry facings	1,283	228,300	199	44,400	11,937	1,152,700	13,419	1,425,400
Lubricants	452	133,000	171	47,100	2,621	277,500	3,244	457,600
Packings	330	141,200	W	W	528	79,000	858	220,200
Paints and Polishes	W	W	W	W	505	53,800	505	53,800
Pencils	760	273,900	743	232,800	470	60,700	1,973	567,400
Refractories	W	W	W	W	8,831	833,100	8,831	833,100
Rubber	57	29,400	W	W	195	43,500	252	72,900
Steelmaking	W	W	W	W	8,478	814,100	8,478	814,100
Other [3]	558	192,300	17	8,300	1,867	269,900	2,442	470,500
Total	8,686	1,957,300	1,731	597,300	37,948	4,074,200	48,365	6,628,800

W Withheld to avoid disclosing individual company confidential data, included in total.

[1] Includes graphite indicated by W, unspecified graphites, and mixtures of natural and manufactured graphites.

[2] Includes some amorphous.

[3] Includes adhesives, chemical equipment and processes, electronic products, powdered-metal parts, small packages, specialties, and other uses not specified.

Prices quoted by E&MJ Metal and Mineral Markets for graphite in 1966 were as follows:

		Date
Flake and crystalline graphite, f.o.b. source, bags:		
Malagasy Republic	per metric ton	Jan.-Apr. $90-$200; Apr.-Dec. $95-$225
Norwegian	per short ton	Jan.-Dec. $85-$145
German	per metric ton	Jan.-Dec. $124-$672
Ceylon	per long ton	Jan.-Apr. $95-$250; Apr.-Dec. $85-$250
Amorphous, nonflake, cryptocrystalline graphite, f.o.b. source, 80-85 percent carbon:		
Mexican bulk	per short ton	Jan.-May $17-$20
Do	per metric ton	Jan.-Nov. $24; Nov.-Dec. $21-$24
Korean, bulk	per long ton	Jan.-May $15; May-Dec. $17
Hong Kong, bags	do	Jan.-May $23; May-Nov. $25; Nov.-Dec. $23

Table 3.—U.S. exports of natural graphite, by countries

Destination	Amorphous, crystalline flake, lump, or chip and natural n.e.c. [1]			
	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Arabia Peninsular States, n.e.c.	----	---	109	$5
Argentina	40	$5	59	8
Australia	32	3	28	3
Austria	6	1	6	1
Brazil	7	1	206	33
Canada	1,438	183	1,221	147
Chile	8	1	2	([2])
Colombia	39	6	66	9
Costa Rica	6	1	----	---
Denmark	5	1	16	3
France	155	19	208	25
Germany, West	37	5	44	6
Greece	----	---	29	4
Guatemala	44	4	4	([2])
India	12	2	----	---
Israel	30	4	21	3
Italy	51	6	82	33
Japan	2	([2])	13	2
Mexico	228	28	335	42
Netherlands	10	1	109	14
Netherlands Antilles	5	1	2	([2])
Norway	7	1	29	2
Pakistan	27	5	7	1
Peru	11	1	13	2
Philippines	44	6	68	10
South Africa, Republic of	4	([2])	7	1
Spain	4	([2])	26	3
Sweden	6	1	31	4
Switzerland	3	1	8	1
Taiwan	15	2	12	2
United Kingdom	828	116	232	36
Venezuela	75	12	123	21
Viet-Nam, South	----	---	11	2
Other countries	17	2	34	5
Total	3,196	419	3,161	428

[1] Not elsewhere classified.
[2] Less than ½ unit.

Table 4.—U.S. imports for consumption of natural and artificial graphite, by countries

Year and country	Natural						Artificial		Total	
	Crystalline flake		Crystalline lump, chip or dust		Other natural crude and refined					
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)	4,340	$444	83	$23	32,261	$1,100	59	$17	36,743	$1,584
1962	5,458	532	181	56	29,250	1,100	4,639	95	39,528	1,783
1963	5,489	542	198	62	46,128	1,383	369	13	52,184	2,000
1964	4,752	477	66	21	42,326	1,441	56	4	47,200	1,943
1965:										
Canada	1	(1)	21	1	8	2	27	1	57	4
Ceylon	28	3	11	1	2,666	275	---	---	2,705	279
France	29	12	---	---	---	---	---	---	29	12
Germany, West	509	88	55	17	1,904	233	5	3	2,473	341
Hong Kong	---	---	---	---	224	5	---	---	224	5
Japan	2	1	---	---	---	---	---	---	2	1
Korea, South	12	2	---	---	1,428	39	---	---	1,440	41
Malagasy Republic	5,611	539	---	---	5	(1)	---	---	5,616	539
Malaysia	59	11	---	---	---	---	---	---	59	11
Mexico	---	---	---	---	41,481	816	---	---	41,481	816
Netherlands	---	---	---	---	---	---	1	(1)	1	(1)
Norway	55	6	---	---	3,793	315	---	---	3,848	321
Switzerland	---	---	---	---	---	---	7	3	7	3
Turkey	88	7	---	---	---	---	---	---	88	7
United Kingdom	---	---	---	---	24	3	2	4	26	7
Total	6,394	669	87	19	51,533	1,688	42	11	58,056	2,387
1966:										
Austria	27	3	---	---	66	8	---	---	93	11
Canada	---	---	---	---	---	---	70	2	70	2
Ceylon	---	---	---	---	4,150	474	---	---	4,150	474
France	2	1	---	---	---	---	---	---	2	1
Germany, West	487	98	---	---	1,344	156	5	3	1,836	257
Greenland	---	---	---	---	107	2	---	---	107	2
Hong Kong	---	---	---	---	17	4	---	---	17	4
Japan	(1)	(1)	---	---	---	---	---	---	(1)	(1)
Korea, South	---	---	---	---	695	16	---	---	695	16
Malagasy Republic	5,886	599	---	---	28	2	---	---	5,914	601
Mexico	---	---	---	---	40,213	847	---	---	40,213	847
Norway	---	---	---	---	3,503	306	---	---	3,503	306
Switzerland	---	---	---	---	---	---	8	3	8	3
Turkey	81	11	---	---	---	---	---	---	81	11
United Kingdom	---	---	---	---	31	6	28	4	59	10
Total	6,483	712	---	---	50,154	1,821	111	12	56,748	2,545

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[1] Less than ½ unit.

Table 5.—World production of natural graphite by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America: [1] Mexico	31,992	33,065	33,441	[r] 44,548	[e] 47,500
South America:					
Argentina	522	306	[r] 245	[r] 128	154
Brazil	1,775	[e] [r] 1,650	[e] [r] 1,270	[r] 1,292	1,336
Europe: [1]					
Austria	98,416	109,778	112,697	94,529	87,677
Germany, West	13,134	[e] [r] 14,122	[r] 14,796	[r] 15,005	14,770
Italy	3,327	2,053	[r] 1,864	1,353	1,179
Norway	7,222	[r] 8,408	[r] 7,983	8,488	[e] 8,500
U.S.S.R. [e]	60,000	60,000	60,000	60,000	61,000
Africa:					
Malagasy Republic	19,274	21,214	14,521	18,756	18,035
South Africa, Republic of	1,308	671	1,042	447	1,161
South-West Africa	------	------	276	396	400
Asia: [1]					
Ceylon (exports)	9,665	9,280	11,957	9,789	11,051
China [e]	45,000	45,000	45,000	45,000	45,000
Hong Kong	902	891	795	------	------
Japan	3,812	3,305	2,700	[r] 2,482	2,459
Korea:					
North [e]	72,000	77,000	77,000	77,000	83,000
South	204,032	374,428	291,515	[r] 283,315	144,338
World total [e]	590,000	[r] 780,000	[r] 695,000	[r] 680,000	545,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Graphite has been produced in Czechoslovakia and India, but production data are not available; estimates by author of chapter included in total. U.S. figure withheld to avoid disclosing individual company confidential data, included in world total.

[2] Compiled from data available May 1967.

Table 6.—Ceylon: Exports of graphite, by countries

(Short tons)

Destination	1965	1966
North America:		
United States	2,290	4,868
Europe:		
Belgium	34	19
Czechoslovakia	105	116
France	174	246
Germany, West	83	84
Netherlands	67	22
Poland	78	55
United Kingdom	2,853	2,274
Yugoslavia	4	39
Asia:		
India	1,488	509
Japan	1,785	2,195
Pakistan	211	71
Thailand	19	31
Oceania: Australia	537	505
Other countries	[r] 61	17
Total	9,789	11,051

[r] Revised.

Japanese industrial consumption in 1965 of natural and artificial graphite electrodes in short tons was as follows:

	Natural	*Artificial*
Aluminum	----	354
Calcium cyanamide and calcium carbide	2,133	----
Ceramics	85	1,044
Ferroalloy	22	22
Iron and Steel	1,261	58,852
Machinery	----	2,167
Other	245	2,167

Table 7.—Malagasy Republic: Exports of graphite, by countries

(Short tons)

Destination	1964	1965
North America:		
Canada	-----	55
United States	4,960	5,638
Europe:		
Belgium-Luxembourg	62	63
Denmark	-----	27
France	2,970	3,339
Germany, West	1,825	2,066
Italy	645	818
Netherlands	61	66
Poland	-----	50
Spain	209	257
United Kingdom	3,523	5,836
Africa: South Africa, Republic of	22	66
Asia:		
India	103	185
Japan	1,013	1,088
Oceania: Australia	100	192
Other countries	-----	34
Total	15,493	19,780

Gypsum

Table 1.—Salient gypsum statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Active mines and plants[1]	91	102	103	106	[r] 113	121
Crude:[2]						
Mined	9,804	9,969	10,388	10,684	10,033	9,647
Value	$34,457	$36,343	$38,138	$38,874	$37,375	$35,681
Imports for consumption	4,956	5,421	5,490	6,258	5,911	5,479
Calcined:						
Produced	8,406	8,819	9,181	9,440	9,320	8,434
Value	$105,145	$127,436	$131,668	$135,877	$133,028	$119,747
Products sold (value)	$347,700	$392,300	$414,090	$431,717	$419,620	$376,871
Gypsum and gypsum products:						
Exports (value)	$1,540	$1,302	$1,431	$1,808	$2,032	$2,674
Imports for consumption (value)	$10,061	$11,912	$12,357	$14,687	$18,328	$17,281
World: Production	43,759	48,000	51,000	52,000	53,000	53,000

[r] Revised.
[1] Each mine, calcining plant, or combination mine and plant is counted as 1 establishment.
[2] Excludes byproduct gypsum.

Table 2.—Crude gypsum mined in the United States, by States

(Thousand short tons and thousand dollars)

State	1965			1966		
	Active mines	Quantity	Value	Active mines	Quantity	Value
Arizona	5	103	$540	5	75	$394
California	10	1,611	3,881	11	1,207	3,064
Colorado	[r] 5	[r] 100	[r] 379	6	75	269
Iowa	5	1,254	5,554	5	1,285	5,577
Michigan	5	1,338	5,027	5	1,522	5,489
Nevada	4	710	2,618	3	594	2,023
New Mexico	3	W	W	4	146	545
New York	5	662	3,511	5	559	2,998
Oklahoma	8	761	2,343	8	785	2,212
South Dakota	1	7	27	1	17	68
Texas	6	1,045	3,794	8	899	3,258
Other States[1]	17	2,442	9,801	20	2,483	9,784
Total	[r] 74	[r] 10,033	[r] 37,375	81	9,647	35,681

[r] Revised. W Withheld to avoid disclosing individual company confidential data; included with "Other States."
[1] Includes the following States to avoid disclosing individual company confidential data: Louisiana, and Washington, 1 mine each; Arkansas, Indiana, Kansas, Montana (1965), Ohio, Utah (1965), Virginia and Wyoming, 2 mines each; and Montana (1966), and Utah (1966), 3 mines each.

Table 3.—Calcined gypsum produced in the United States, by States

(Thousand short tons and thousand dollars)

State	1965					1966				
				Calcining equipment					Calcining equipment	
	Active plants	Quantity	Value	Kettles	Other [1]	Active plants	Quantity	Value	Kettles	Other [1]
California	9	820	$9,184	21	15	9	688	$8,640	21	15
Georgia	3	431	9,250	15	---	3	404	8,007	15	---
Iowa	5	845	12,668	22	4	5	816	11,929	23	4
Louisiana	W	W	W	W	W	3	173	3,072	6	1
Michigan	4	408	6,315	10	1	4	426	6,820	10	1
New York	7	1,041	15,359	23	5	7	961	12,803	23	5
Texas	7	837	10,743	27	3	7	670	9,376	28	3
Other States [2]	43	4,938	69,509	109	43	40	4,296	59,100	108	50
Total	78	9,320	133,028	227	71	78	8,434	119,747	234	79

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Includes rotary and beehive kilns, grinding-calcining units, Holo-Flites, and Hydrocal cylinders.

[2] Comprises States and number of plants as follows: Arizona, 1; Arkansas, 1; Colorado, 2 (1965), 1 (1966); Connecticut, 1; Delaware, 1; Florida, 3; Illinois, 1; Indiana, 3; Kansas, 2; Louisiana, (1965), 3; Maryland, 2; Massachusetts, 1; Montana, 1; Nevada, 3; New Hampshire, 1; New Jersey, 3 (1965), 4, (1966); New Mexico, 2; Ohio, 3; Oklahoma, 2; Pennsylvania, 1; Utah, 2; Virginia, 2; Washington, 1; Wyoming, 1.

Table 4.—Gypsum products (made from domestic, imported and byproduct gypsum) sold or used in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Uncalcined:				
Portland-cement retarder	3,152	$14,765	3,372	$15,544
Agricultural gypsum	r 1,359	r 4,772	1,240	5,195
Other uses [1]	66	776	81	705
Total	r 4,577	r 20,313	4,693	21,444
Calcined:				
Industrial:				
Plate-glass and terra-cotta plasters	56	861	46	706
Pottery plasters	54	1,236	50	1,220
Dental and orthopedic plasters	18	698	16	667
Industrial molding, art, and casting plasters	111	2,370	122	2,741
Other industrial uses [2]	80	3,116	88	3,605
Total	319	8,281	322	8,939
Building:				
Plasters:				
Base-coat	828	15,930	680	13,067
Sanded and premixed perlite	436	10,981	391	10,396
To mixing plants	W	W	W	W
Gaging and molding	113	2,552	101	2,372
Prepared finishes	10	815	18	1,252
Roof deck	363	5,708	354	5,647
Other [3]	28	1,037	15	404
Keene's cement	27	761	20	847
Total	1,805	37,784	1,579	33,985
Prefabricated products [4]	[5] 8,998	353,242	[5] 7,832	312,508
Total	---	391,026	---	346,488
Grand total, value	---	r 419,620	---	376,871

r Revised. W Withheld to avoid disclosing individual company confidential data; included with "Other."

[1] Includes uncalcined gypsum for use in filler and rock dust, in brewer's fixe, in color manufacture, and for unspecified uses.

[2] Includes dead-burned filler, granite polishing, and miscellaneous uses.

[3] Includes joint filler, patching, painter's, insulating, unclassified building plasters, and quantity and value indicated by symbol W.

[4] Excludes tile.

[5] Includes weight of paper, metal, or other materials.

Table 5.—Prefrabricated products sold or used in the United States, by products

Product	1965			1966		
	Thousand square feet	Thousand short tons [1]	Value (thousands)	Thousand square feet	Thousand short tons [1]	Value (thousands)
Lath:						
⅜ inch	1,237,983	916	$31,985	953,317	702	$24,764
½ inch	123,578	121	4,485	118,289	115	4,357
Other [2]	6,234	8	285	7,226	9	342
Total	1,367,795	1,045	36,755	1,078,832	826	29,463
Wallboard:						
¼ inch	144,158	82	3,540	112,896	69	3,070
⅜ inch	1,781,836	1,339	59,825	1,504,604	1,127	50,800
½ inch	5,444,859	5,352	206,100	4,824,505	4,769	185,646
⅝ inch	693,356	873	36,522	626,060	780	34,360
1 inch [3]	18,864	32	1,284	16,230	29	1,225
Total	8,083,073	7,678	307,271	7,084,295	6,774	275,101
Sheathing	213,402	216	6,834	173,147	176	5,635
Laminated board	[4] 7,126	7	317	[4] 5,818	4	291
Formboard	50,056	52	2,065	49,474	52	2,013
Grand total [5]	9,721,452	8,998	353,242	8,391,566	7,832	312,503

[1] Includes weight of paper, metal, or other materials.
[2] Includes a small amount of ¼-inch, ⅝-inch, and 1-inch lath.
[3] Includes a small amount of 5/16-inch, ¾-inch, 1⅝-inch, and 3¾-inch wallboard.
[4] Area of component board and not of finished products.
[5] Excludes tile, for which figures are withheld to avoid disclosing individual company confidential data.

Table 6.—U.S. exports of gypsum and gypsum products

Year	Crude, crushed or calcined		Other manufactures n.e.c., value (thousands)	Total value (thousands)
	Short tons (thousands)	Value (thousands)		
1957–61 [1] (average)	21	$749	$791	$1,540
1962	20	736	566	1,302
1963	17	669	762	1,431
1964	21	829	979	1,808
1965	28	1,112	920	2,032
1966	38	1,458	1,216	2,674

[1] Effective Jan. 1, 1958, plasterboard, wallboard, and tile not separately classified included with "other manufactures, n.e.c.", 1957: 8,866,572 square feet, $519,668.

Table 7.—U.S. imports for consumption of gypsum and gypsum products [1]

(Thousand short tons and thousand dollars)

Year	Crude (including anhydrite)		Ground or calcined		Alabaster manufactures,[2] value	Other manufactures, n.e.c., value	Total value
	Quantity	Value	Quantity	Value			
1957–61 (average)	4,956	$8,866	1	$42	$787	$366	$10,061
1962	5,421	10,490	2	55	1,025	342	11,912
1963	5,490	19,887	([3])	62	1,031	377	12,357
1964	6,258	13,305	1	53	945	384	14,687
1965	5,911	11,848	1	65	1,055	360	13,328
1966	5,479	15,761	2	91	985	444	17,281

[1] In addition, Keene's cement was imported as follows: 1957–61 (average) none; 1962, 2,760 short tons ($2,073); 1963–66 none.
[2] Includes imports of jet manufactures, which are believed to be negligible.
[3] Less than ½ unit.

Table 8.—U.S. imports for consumption of crude gypsum (including anhydrite), by countries

(Thousand short tons and thousand dollars)

Country	1965		1966	
	Quantity	Value	Quantity	Value
North America:				
Canada	4,779	$9,501	4,381	$8,966
Dominican Republic	69	221	67	216
Jamaica	186	619	172	528
Mexico	877	1,506	830	5,996
Netherlands Antilles	---	---	29	55
Total	5,911	11,847	5,479	15,761
Europe	(1)	1	(1)	(1)
Asia	---	---	(1)	(1)
Grand total	5,911	11,848	5,479	15,761

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[1] Less than ½ unit.

Table 9.—World production of gypspm, by countries[1]

(Thousand short tons)

Country[1]	1962	1963	1964	1965	1966[p] [2]
North America:					
Canada[3]	5,398	6,082	6,361	[r] 6,306	5,982
Cuba[e]	21	24	NA	NA	NA
Dominican Republic	484	39	121	99	100
Guatemala	[e] 11	16	8	10	18
Honduras	4	3	5	7	13
Jamaica	252	256	215	[r] 234	244
Mexico	876	1,210	1,284	1,192	1,269
Nicaragua	4	3	6	6	10
Trinidad	4	3	3	2	2
United States	9,969	10,388	10,684	[r] 10,033	9,647
South America:					
Argentina	237	216	[r] 170	[r] 259	[e] 220
Brazil	119	[r] 116	93	[r] 80	[e] 83
Chile	127	128	131	118	132
Colombia	91	112	118	123	[e] 127
Paraguay	NA	NA	1	2	3
Peru	67	[r] 57	[r] 55	[r] 73	70
Venezuela	[e] 69	71	84	100	[e] 83
Europe:					
Austria[3]	754	644	626	681	856
Bulgaria	129	110	[r] 142	[r] 192	[e] 198
Czechoslovakia	411	333	387	410	[e] 419
France[3]	4,406	4,639	5,415	[r] 5,526	[e] 5,512
Germany:					
East[4]	302	284	295	[r] 287	[e] 287
West (marketable)	1,227	[r] 1,255	[r] 1,409	[r] 1,433	1,438
Greece	104	[e] 105	[e] 88	[e] 110	132
Ireland	194	225	[r] 255	[e] [r] 240	[e] 240
Italy	2,377	2,633	[r] 2,785	[r] 3,614	[e] 3,638
Luxembourg	9	7	8	6	[e] 7
Poland	605	645	[e] [r] 838	[e] [r] 840	[e] 840
Portugal	80	66	72	[r] 89	[e] 88
Spain	3,287	4,258	[r] 3,146	[e] 3,147	[e] 3,142
Switzerland[e]	110	110	110	110	110
U.S.S.R.	4,824	4,673	4,633	[r] 4,788	[e] 4,850
United Kingdom[4]	4,479	[r] 4,558	5,056	[r] 4,922	4,804
Yugoslavia	[r] 130	[r] 152	[r] 171	[r] 184	160
Africa:					
Algeria[e]	195	195	195	195	195
Angola	18	16	[r] 11	[r] 11	[e] 11
Ethiopia	NA	NA	[e] 4	[e] 3	[e] 3
Kenya	30	23	31	[r] 38	37
Libya	---	---	(5)	2	3
Morocco[e]	[r] 50	[r] 44	[r] 55	[r] 77	88
Niger	---	---	---	2	[e] 2
South Africa, Republic of	212	207	265	335	327
Sudan	8	5	5	5	2
Tanzania	2	2	3	5	5
Tunisia	18	20	[e] 20	[e] 20	[e] 20
United Arab Republic (Egypt)	515	500	372	[r] 252	506

Table 9.—World production of gypsum, by countries [1]—Continued

(Thousand short tons)

Country [1]	1962	1963	1964	1965	1966 [p] [2]
Asia:					
Burma	2	9	10	[e] 1	2
China, mainland [e]	450	550	650	650	650
Cyprus	115	110	50	[e] 67	50
India	[e] 1,235	1,313	[r] 973	[r] 1,266	1,425
Iran [e] [6]	1,100	1,100	1,300	1,700	2,000
Iraq [e]	550	550	550	550	550
Israel [e] [7]	82	115	121	121	94
Japan	882	863	828	[r] 716	659
Jordan	10	[e] 10	NA	NA	NA
Lebanon	---	---	---	---	30
Mongolia [e]	11	17	22	22	22
Pakistan	132	143	154	162	123
Philippines	16	34	45	30	27
Saudi Arabia	[e] 12	[e] 40	[e] 33	25	28
Syrian Arab Republic	17	[e] 17	22	[e] 17	[e] 17
Taiwan	18	29	19	[r] 31	9
Thailand	23	26	46	12	44
Turkey	154	198	[e] 220	[e] 243	[e] 243
Oceania: Australia	707	[r] 812	[r] 890	[r] 934	886
World total [e]	[r] 48,000	[r] 51,000	[r] 52,000	[r] 53,000	53,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Gypsum is also produced in Rumania, but production data are not available; an estimate is included in the total. Production in Bolivia and Ecuador is negligible.

[2] Compiled from data available June 1967.

[3] Includes anhydrite.

[4] Crude production estimates based on calcined figures.

[5] Less than ½ unit.

[6] Year ended March 20 of year following that stated.

[7] Year ended March 31 of year following that stated.

Iodine

Table 1.—Crude iodine consumed in the United States

Product	1965			1966		
	Number of plants	Crude iodine consumed		Number of plants	Crude iodine consumed	
		Thousand pounds	Percent of total		Thousand pounds	Percent of total
Resublimed iodine	8	198	6	7	194	5
Potassium iodide	10	1,300	37	12	1,505	40
Sodium iodide	4	W	W	2	W	W
Other inorganic compounds	20	1,083	31	20	1,121	30
Organic compounds	25	925	26	24	944	25
Total	[1] 44	3,506	100	[1] 44	3,764	100

W Withheld to avoid disclosing individual company confidential data; included with "Other inorganic compounds."

[1] Nonadditive total because some plants produce more than 1 product.

The price of iodine and its compounds, remained constant in 1966, and were quoted by the Oil, Paint and Drug Reporter as follows:

	Per pound
Crude iodine, drums	$1.18
Resublimed iodine, U.S.P., drums, f.o.b. works	2.20 to 2.22
Calcium iodate, drums, delivered	1.45 to 1.60
Calcium iodide, 25-pound jars, f.o.b works	4.27
Potassium iodide, U.S.P., crystals, drums, 500 pounds or more, delivered	1.45
Potassium iodide, U.S.P., crystals, drums, smaller lots, delivered	1.47
Sodium iodide, U.S.P., 300-pound drums, freight equalized	2.13

Table 2.—U.S. imports for consumption of crude iodine, by countries

(Thousand pounds and thousand dollars)

Country	1957–61 (average)		1962		1963		1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Canada	----	----	----	----	----	----	29	$31	----	----	----	----
Chile	1,636	$1,391	2,229	$2,054	2,462	$2,093	1,759	1,492	2,111	$1,689	4,404	$3,676
Hong Kong	----	----	----	----	----	----	----	----	----	----	11	13
Japan	489	501	797	787	874	865	804	846	736	787	2,718	2,245
Total	2,125	1,892	3,026	2,841	3,336	2,958	2,592	2,369	2,847	2,476	7,133	5,934

Kyanite and Related Minerals

Table 1.—Synthetic mullite production in the United States

Year	Short tons	Value (thousands)
1957–61 (average)	18,133	$1,918
1962	19,021	2,090
1963	29,588	3,529
1964	36,108	4,450
1965	40,049	4,866
1966	49,551	5,961

Table 2.—U.S. exports and imports for consumption of kyanite and related minerals, including mullite

Country	1957–61 (average)		1962		1963	
	Short tons	Value	Short tons	Value	Short tons	Value
Exports:						
Argentina	21	$1,259	53	$3,028	44	$2,500
Australia	4	208	39	3,737	103	6,673
Belgium-Luxembourg	(1)	107	30	1,377	---	---
Canada	1,283	85,871	611	100,480	765	133,360
France	65	4,373	99	7,012	204	38,669
Germany, West	223	14,369	719	45,464	939	53,524
Italy	102	6,394	424	28,426	459	42,535
Japan	252	19,137	242	15,792	862	53,203
Mexico	731	35,047	587	33,073	698	42,952
Netherlands	35	2,292	---	---	18	1,007
United Kingdom	215	14,478	530	30,754	625	40,782
Venezuela	20	1,880	81	3,782	228	16,409
Other countries	63	4,953	153	13,815	105	10,456
Total	3,014	190,368	3,568	286,740	5,050	442,070
Imports:						
India	2,973	$145,383	3,845	$174,948	2,500	$110,532
South Africa, Republic of	1,934	68,930	1,328	49,483	65	3,299
Other countries	106	9,698	108	9,980	59	5,287
Total	5,013	224,011	5,281	234,411	2,624	119,118

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[1] Less than ½ unit.

Table 2.—U.S. Exports and imports for consumption of kyanite and related minerals, including mullite—Continued

Country	1964		1965		1966	
	Short tons	Value	Short tons	Value	Short tons	Value
Exports:						
Argentina	84	$4,790	115	$7,842	---	---
Australia	226	21,507	1,558	111,777	1,291	$96,036
Belgium-Luxembourg	45	2,470	144	8,537	234	19,842
Canada	1,680	109,548	2,117	127,968	4,270	316,619
France	98	7,398	168	15,754	92	8,675
Germany, West	953	54,453	1,349	78,185	1,072	60,144
Italy	370	32,079	431	26,824	587	39,934
Japan	553	38,829	1,127	134,134	5,150	327,335
Mexico	704	36,435	1,070	70,616	1,531	91,386
Netherlands	---	---	122	7,354	145	5,819
United Kingdom	788	47,183	1,150	85,802	2,205	121,608
Venezuela	323	17,396	594	32,893	365	18,702
Other countries	256	21,069	293	24,161	397	24,625
Total	6,080	393,157	10,238	731,847	17,339	1,130,725
Imports:						
India	2,329	$101,307	3,815	$158,051	3,404	$140,145
South Africa, Republic of	57	2,300	232	8,877	---	---
Other countries	---	---	---	---	1	660
Total	2,386	103,607	4,047	166,928	3,405	140,805

Lime

Table 1.—Salient lime statistics in the United States

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
Number of active primary plants	165	215	208	210	212	208
Sold or used by producers:						
Quicklime	7,299	9,509	10,128	11,370	12,009	13,195
Hydrated lime	2,369	2,386	2,444	2,551	2,609	2,669
Dead-burned dolomite	1,966	1,858	1,949	2,168	2,176	2,193
Total [1]	11,634	13,753	14,521	16,089	16,794	18,057
Value [2]	$154,124	$186,754	$199,389	$223,149	$232,939	$239,588
Average value per ton	$13.25	$13.58	$13.73	$13.87	$13.87	$13.27
Open-market	8,112	8,145	8,889	9,802	10,449	11,451
Captive	[3] 3,522	5,608	5,632	6,287	6,345	6,606
Imports for consumption	36	78	101	123	276	196
Exports	51	20	17	30	40	60

[1] Data may not add to totals shown because of rounding.
[2] Selling value, f.o.b. plant, excluding cost of containers.
[3] Incomplete figures; before 1961 the coverage of captive plants was only partial.

Table 2.—Lime, primary, sold or used by producers in the United States, by States

(Thousand short tons and thousand dollars)

State	1965								
	Sold			Used			Total [1]		
	Active plants	Quantity	Value	Active plants	Quantity	Value	Active plants	Quantity	Value
Alabama	5	W	W	3	W	W	6	653	$7,905
Arizona	4	W	W	3	W	W	6	204	3,543
Arkansas	1	W	W	4	W	W	5	192	2,776
California	5	174	$3,342	12	428	$7,731	16	602	11,073
Colorado	2	W	W	13	W	W	15	118	2,074
Florida	2	W	W	1	W	W	3	101	1,558
Hawaii	2	W	W	1	W	W	2	9	305
Louisiana	2	W	W	2	W	W	4	842	9,980
Maryland	3	37	481	--	---	---	3	37	481
Massachusetts	3	W	W	2	W	W	3	170	2,779
Michigan	4	W	W	8	W	W	10	1,095	13,057
Mississippi	--	---	---	1	W	W	1	W	W
Missouri	4	1,442	16,782	--	---	---	4	1,442	16,782
Montana	1	3	72	5	155	1,440	6	159	1,512
New Mexico	--	---	---	1	33	465	1	33	465
New York	1	W	W	2	W	W	2	W	W
Ohio	18	2,430	37,589	9	1,400	15,619	22	3,831	53,208
Oklahoma	1	W	W	--	---	---	1	W	W
Oregon	2	W	W	2	W	W	4	98	1,853
Pennsylvania	18	1,568	22,496	--	---	---	18	1,568	22,496
Tennessee	2	W	W	1	W	W	2	W	W
Texas	10	672	7,951	7	666	11,712	14	1,338	19,663
Utah	3	W	W	4	W	W	7	189	3,470
Virginia	9	W	W	1	W	W	10	847	10,584
West Virginia	3	W	W	2	W	W	4	W	W
Wisconsin	5	W	W	1	W	W	6	197	3,076
Connecticut, New Jersey, Vermont	4	W	W	1	W	W	4	64	1,106
Illinois, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wyoming	10	1,163	17,984	13	101	2,152	23	1,264	20,135
Idaho, Nevada, Washington	4	W	W	6	W	W	10	379	6,873
Undistributed [2]	--	2,958	43,124	--	3,562	44,001	--	1,360	16,185
Total [1]	128	10,448	149,819	105	6,345	83,120	212	16,794	232,939
Puerto Rico	1	27	867	--	---	---	1	27	867

W Withheld to avoid disclosing individual company confidential data.
[1] Data may not add to totals shown because of rounding.
[2] Includes items indicated by symbol W.

Table 2.—Lime, primary, sold or used by producers in the United States, by States—Continued

(Thousand short tons and thousand dollars)

State	1966								
	Sold			Used			Total [1]		
	Active plants	Quantity	Value	Active plants	Quantity	Value	Active plants	Quantity	Value
Alabama	5	W	W	4	W	W	7	699	$8,442
Arizona	4	121	$1,928	3	97	$1,793	6	218	3,721
Arkansas	1	W	W	4	W	W	5	207	3,004
California	6	183	3,300	12	368	5,464	17	552	8,764
Colorado	2	W	W	13	W	W	15	126	2,327
Florida	2	W	W	1	W	W	3	135	1,966
Hawaii	2	W	W	1	W	W	2	10	320
Louisiana	2	W	W	2	W	W	4	835	9,274
Maryland	3	29	386	--	---	---	3	29	386
Massachusetts	3	W	W	2	W	W	3	182	2,712
Michigan	4	721	8,503	8	980	11,513	11	1,701	20,016
Mississippi	1	W	W	1	W	W	1	W	W
Missouri	4	W	W	1	W	W	4	1,494	17,910
Montana	--	---	---	4	225	2,116	4	225	2,116
New Mexico	--	---	---	1	34	472	1	34	472
New York	1	W	W	3	W	W	3	1,096	9,870
Ohio	15	2,535	36,075	8	1,322	14,921	19	3,858	50,997
Oklahoma	1	W	W	--	---	---	1	W	W
Oregon	2	W	W	2	W	W	4	116	2,283
Pennsylvania	15	W	W	1	W	W	16	1,585	22,816
Tennessee	2	W	W	--	---	---	2	W	W
Texas	9	763	8,826	6	710	9,870	14	1,473	18,696
Utah	3	W	W	4	W	W	7	200	3,640
Virginia	8	W	W	2	W	W	9	840	10,486
West Virginia	3	W	W	1	W	W	3	240	3,492
Wisconsin	5	W	W	1	W	W	6	204	3,186
Connecticut, New Jersey, Vermont	4	W	W	1	W	W	4	50	901
Illinois, Indiana, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wyoming	11	1,219	17,961	13	112	2,435	24	1,331	20,396
Idaho, Nevada, Washington	4	W	W	6	W	W	10	378	6,164
Undistributed [2]	--	5,878	80,443	--	2,757	33,582	--	238	5,231
Total [1]	122	11,451	157,422	105	6,606	82,166	208	18,057	239,588
Puerto Rico	1	30	960	--	---	---	1	30	960

W Withheld to avoid disclosing individual company confidential data.

[1] Data may not add to totals shown because of rounding.

[2] Includes items indicated by symbol W.

Table 3.—Regenerated lime produced in the United States
(Thousand short tons and thousand dollars)

State	Quicklime			
	1965		1966	
	Short tons	Value	Short tons	Value
Alabama	316	$4,494	399	$5,762
Arkansas	147	2,797	167	3,248
California	48	1,166	47	1,136
Florida	425	6,524	462	7,496
Georgia	352	6,697	367	7,100
Idaho	r 70	W	75	W
Kentucky	W	W	237	2,240
Louisiana [1]	946	17,741	451	8,934
Maine	39	589	W	W
Maryland	41	652	30	449
Michigan [1]	45	523	40	508
Montana	---	---	67	W
North Carolina	324	4,112	337	3,767
Ohio	94	1,123	98	1,175
Oregon	137	3,353	190	4,628
Pennsylvania	23	380	23	378
South Carolina	311	3,478	307	3,175
Tennessee	126	2,057	127	2,098
Virginia	20	283	123	1,721
Washington [1]	r 416	r 8,903	446	10,322
Wisconsin [1]	25	442	33	584
Undistributed [2]	r 543	r 9,308	406	10,004
Total [3]	r 4,449	r 74,622	4,432	74,726

r Revised. W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Includes hydrated lime to avoid disclosing individual company confidential data.

[2] Includes Mississippi, New York, Texas, and States indicated by symbol W.

[3] Data may not add to totals shown because of rounding.

Table 4.—Number and production of domestic lime plants, by size of operation [1]

Annual production (short tons)	1965			1966		
	Number of plants	Production (thousand short tons)	Percent of total	Number of plants	Production (thousand short tons)	Percent of total
Less than 10,000	26	172	1	29	217	1
10,000 to less than 25,000	20	356	2	13	216	1
25,000 to less than 50,000	59	2,022	12	56	1,927	11
50,000 to less than 100,000	53	4,437	27	48	4,185	23
100,000 to less than 200,000	44	6,579	39	32	4,229	24
200,000 and over	10	3,228	19	30	7,283	40
Total	212	16,794	100	208	18,057	100

[1] Includes captive tonnage.

Table 5.—Lime sold or used by producers in the United States, by uses

(Thousand short tons)

Use	1965			1966		
	Open market	Captive	Total	Open market	Captive	Total
Agriculture	217	(1)	217	199	(1)	199
Construction:						
Finishing lime	365	W	365	263	W	263
Mason's lime	444	W	444	499	W	499
Soil stabilization	509	--	509	573	--	573
Other	76	--	76	74	--	74
Undistributed [2]	--	84	84	--	103	103
Total [3]	1,393	84	1,477	1,409	103	1,512
Chemical and other industrial:						
Alkalies (ammonium, potassium, and sodium compounds)	15	3,491	3,506	15	3,274	3,290
Brick, sand-lime,slag, and silica	23	--	23	20	--	20
Calcium carbide	597	W	597	455	W	455
Glass	301	--	301	435	--	435
Other chemical uses [4]	674	1,337	2,011	687	1,238	1,925
Metallurgical uses:						
Aluminum	114	W	114	135	W	135
Copper smelting	126	236	362	117	307	424
Magnesium	W	113	113	W	W	128
Ore concentration [5]	55	W	55	60	--	60
Steel flux	[r]2,695	158	[r]2,853	3,657	384	4,041
Metallurgy (other) [6]	[r]46	199	[r]245	55	282	337
Paper and pulp	856	32	888	896	98	994
Sewage and trade-wastes treatment	238	29	267	310	54	365
Sugar	37	587	625	30	545	575
Water softening and treatment	962	1	964	1,095	(7)	1,095
Total [3]	6,740	6,184	12,924	7,970	6,182	14,281
Refractory lime (deadburned dolomite)	2,099	77	2,176	1,872	321	2,193
Grand total [3]	10,449	6,345	16,794	11,451	6,606	18,057

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[r] Revised. W Withheld to avoid disclosing individual company confidential data.

[1] Included with open-market agricultural lime to avoid disclosing confidential data.

[2] Includes finishing and mason's.

[3] Data may not add to totals shown because of rounding.

[4] Includes alcohol, calcium carbonate (precipitated), coke and gas, food and food byproducts, insecticides, medicine and drugs, explosives, oil-well drilling, paint, petrochemicals, petroleum refining, rubber, tanning, salt, miscellaneous, unspecified uses, and items indicated by symbol W.

[5] Includes flotation, cyanidation, and bauxite purification.

[6] Includes wire drawing and various metallurgical uses, and items indicated by symbol W.

[7] Less than ½ unit.

Table 6.—Destination of shipments of primary open-market lime sold in the United States, by States

(Thousand short tons)

State	1965			1966		
	Quicklime	Hydrated lime	Total	Quicklime	Hydrated lime	Total
Alabama	267	17	283	309	15	324
Alaska	W	W	2	W	W	1
Arizona	W	W	106	W	W	114
Arkansas	11	19	30	15	19	34
California	240	119	358	263	111	374
Colorado	51	24	74	66	26	92
Connecticut	51	28	79	70	27	96
Delaware	42	11	53	34	11	44
District of Columbia	W	W	5	W	W	6
Florida	157	58	215	172	68	240
Georgia	81	18	99	105	19	124
Hawaii	--	W	W	W	W	W
Idaho	W	W	10	W	W	12
Illinois	593	150	743	606	159	765
Indiana	632	50	682	925	64	989
Iowa	84	21	105	87	19	106
Kansas	37	14	51	40	20	60
Kentucky	481	18	499	418	18	436
Louisiana	203	57	260	167	52	220
Maine	44	11	55	43	11	54
Maryland	232	19	252	323	18	341
Massachusetts	W	W	36	W	W	39
Michigan	655	66	721	911	64	975
Minnesota	104	18	122	110	17	127
Mississippi	24	22	46	78	46	124
Missouri	131	56	187	125	51	176
Montana	7	4	11	4	2	5
Nebraska	W	W	21	W	W	20
Nevada	W	W	W	W	W	36
New Hampshire	7	3	10	W	W	10
New Jersey	67	80	147	75	88	164
New Mexico	(3)	27	27	1	24	26
New York	204	151	354	234	168	402
North Carolina	50	30	80	70	30	100
North Dakota	W	W	17	W	W	12
Ohio	1,027	158	1,184	1,257	140	1,397
Oklahoma	W	W	W	W	W	W
Oregon	52	18	70	56	15	72
Pennsylvania	1,515	198	1,713	1,351	178	1,528
Rhode Island	6	8	13	7	6	13
South Carolina	17	8	26	36	8	44
South Dakota	11	31	41	13	23	36
Tennessee	68	30	98	69	51	120
Texas	296	397	692	327	451	778
Utah	W	W	76	W	W	84
Vermont	W	W	3	W	W	2
Virginia	103	42	145	129	37	166
Washington	62	16	79	69	16	85
West Virginia	119	16	135	94	22	116
Wisconsin	85	57	142	89	53	143
Wyoming	W	W	4	W	W	8
Undistributed [1]	323	150	194	281	170	107
Total United States [2]	8,137	2,217	10,353	9,030	2,317	11,346

W Withheld to avoid disclosing individual company confidential data.

[1] Includes States indicated by symbol W.

[2] Data may not add to totals shown because of rounding.

[3] Less than ½ unit.

Table 7.—U.S. exports of lime

Year	Short tons	Value (thousands)	Year	Short tons	Value (thousands)
1957–61 (average)	50,969	$1,058	1964	29,858	$777
1962	19,512	660	1965	40,036	942
1963	17,463	565	1966	59,848	1,195

Table 8.—U.S. imports for consumption of lime

Year	Hydrated lime		Other lime		Dead-burned dolomite [1]		Total	
	Short tons [2]	Value (thousands)	Short tons [2]	Value (thousands)	Short tons [2]	Value (thousands)	Short tons [2]	Value (thousands)
1957–61 (average)	680	$14	26,812	$462	8,352	$448	35,844	$924
1962	1,141	19	71,970	939	4,456	245	77,567	1,203
1963	692	12	90,676	1,005	9,389	455	100,757	1,472
1964	843	10	93,420	1,112	28,876	1,165	123,139	2,287
1965	532	10	215,816	2,590	59,519	2,385	275,867	4,985
1966	203	5	151,703	1,772	43,637	2,038	195,543	3,815

[1] Dead-burned basic refractory material consisting chiefly of magnesia and lime.
[2] Includes weight of immediate container.

Table 9.—World production of quicklime, hydrated lime, and dead-burned dolomite

(Thousand short tons)

Country [1]	1962	1963	1964	1965	1966 p [2]
North America:					
Canada	1,424	1,451	1,541	r 1,620	1,546
Costa Rica e	4	6	7	13	13
El Salvador	(3)	NA	NA	NA	NA
Guatemala	NA	NA	NA	18	19
Nicaragua	29	e 31	r 29	r 29	30
Puerto Rico	1	4	18	27	30
United States (sold or used by producers)	13,753	14,521	16,089	16,794	18,057
West Indies:					
Bahamas	2	3	NA	NA	NA
Barbados (exports)	NA	5	3	4	NA
Bermuda e	(3)	(3)	(3)	(3)	(3)
Dominican Republic	8	9	NA	NA	NA
Guadeloupe	(3)	NA	NA	NA	NA
Haiti e	180	180	180	180	NA
Netherlands Antilles (sales)	NA	(3)	NA	NA	NA
South America:					
Brazil	1,308	1,332	1,585	r 1,344	NA
Colombia	94	107	110	117	NA
Paraguay	19	19	20	20	19
Peru	88	94	102	NA	NA
Uruguay e	36	33	46	66	66
Venezuela	49	55	75	r 71	NA
Europe:					
Austria	740	759	805	r 763	875
Belgium	2,245	2,223	2,534	2,526	2,460
Bulgaria	766	830	r 919	r 938	NA
Czechoslovakia	2,611	2,485	2,587	2,743	NA
Denmark	162	167	176	r 179	165
Finland	246	229	265	270	250
France	3,078	2,919	3,216	r 3,113	3,076
Germany:					
East	3,686	3,811	4,049	r 3,793	e 3,900
West	10,690	10,775	11,920	11,714	11,465
Hungary	685	r 698	r 811	782	852
Ireland	33	36	r 44	e 46	e 45
Luxembourg	---	---	---	---	1
Malta	39	18	NA	r 41	40
Norway	NA	NA	121	140	e 132
Poland	2,186	2,209	r 2,395	r 2,491	2,708
Rumania	746	806	896	r 962	e 992
Spain	203	234	283	NA	NA
Sweden	798	853	r 935	r 1,097	NA
Switzerland	212	203	221	r 195	NA
U.S.S.R.	18,239	17,651	17,855	r 19,495	e 19,800
Yugoslavia	847	947	999	1,226	1,255
Africa:					
Cape Verde Islands	(3)	(3)	(3)	NA	NA
Congo, (Kinshasa)	52	74	75	72	e 67
Ethiopia [4]	6	5	e 7	e 4	NA
Kenya	NA	NA	5	NA	NA
Libya e	19	NA	NA	NA	NA
Mozambique	7	NA	NA	NA	NA
South Africa, Republic of (sales)	726	719	771	823	812
South-West Africa	3	3	4	4	3
St. Thomas and Principe Islands	(3)	(3)	NA	NA	NA
Tanzania (sales and exports)	3	1	2	2	10
Tunisia	142	146	193	e r 192	190
Uganda	18	12	13	22	4
Zambia	NA	NA	NA	85	NA
Asia:					
Cyprus	50	65	e 44	r 81	NA
Japan	1,373	1,527	1,798	1,865	2,219
Kuwait	---	---	13	1	NA
Lebanon	e 10	39	29	44	72
Mongolia e	23	28	33	39	39
Philippines	e 47	35	32	26	26
Ryukyu Islands	1	e 1	NA	NA	23
Sarawak	(3)	(3)	(3)	r (3)	(3)
Saudi Arabia	NA	7	NA	33	22
Taiwan	83	88	101	113	118
Oceania:					
Australia [5]	r 132	r 117	r 113	r 178	NA
Fiji Islands	3	6	4	20	3

e Estimate. p Preliminary. r Revised. NA Not available.

[1] Lime is also produced in Argentina, Burundi, Chile, China, Ecuador, Greece, Honduras, India, Indonesia, Iran, Israel, Italy, South Korea, Mexico, Morocco, New Zealand, Pakistan, Rwanda, Southern Rhodesia, Syrian Arab Republic, and Viet-Nam, but production data are not available.

[2] Compiled mostly from data available June 1967.

[3] Less than ½ unit.

[4] Year ended September 10 of year stated.

[5] Year ended June 30 of year stated.

Lithium

U.S. production of lithium minerals withheld to avoid disclosing individual company confidential data.

Table 1.—Prices of selected lithium products in 1966

(Per pound)

Item	1966
Lithium metal, 100-pound lots, delivered	$7.50
Lithium carbonate:	
Drums, ton lots [1]	.46–.50
Technical, drums, ton lots [1]	.45–.49
Lithium chloride:	
Chemically pure, anhydrous, drums, ton lots [1]	1.235–1.27
Technical, anhydrous, drums, carlots, truckloads, delivered or works, freight allowed	.87
Technical, anhydrous, drums, less than carlots, freight allowed	.88– .92
Lithium fluoride:	
Barrels, ton lots and more, delivered [1]	1.55–1.61
Barrels, less ton lots, delivered [1]	1.65–1.71
Lithium hydride, powder, drums, 500-pound lots or more, works	9.50
Lithium hydroxide:	
Monohydrate, granular, drums, carlots, truckloads, freight allowed [1]	.54–.575
Monohydrate, drums, less than carlots, freight allowed [1]	.58–.615
Lithium nitrate, technical, drums, 100-pound lots	1.15–1.25
Lithium stearate:	
Drums, carlots, works	.475
Drums, ton lots, works	.485
Drums, less than ton lots, works	.535
Lithium sulfate, drums, 100-pound lots	1.15–1.25

[1] The higher quoted price began Dec. 26, 1966.
Source: Oil, Paint and Drug Reporter.

Table 2.—U.S. imports for consumption of lithium minerals, by country of origin and U.S. customs district

Country of origin and U.S. customs district	1965		1966	
	Short tons	Value	Short tons	Value
Africa:				
Mozambique: Maryland	[r] 3,377	[r] $104,194	---	---
South Africa, Republic of: New York	---	---	1,404	$17,458
Zambia: Maryland	7,868	247,302	---	---
Rhodesia, Southern: Maryland			7,856	242,016
Malawi: Maryland			---	---
Total	[r] 11,245	[r] 351,496	9,260	259,474

[r] Revised.

Table 3.—Free world production of lithium minerals, by countries

(Short tons)

Country	Mineral produced	1962	1963	1964	1965	1966 [p] [1]
North America: [2] Canada	Spodumene (Li_2O content)	250	322	528	[r] 507	122
South America:						
Argentina	Lithium minerals	496	1,583	799	[r] 686	NA
Brazil	Amblygonite (exports)	---	---	---	28	NA
	Spodumene (exports)	165	28	---	[r] 7,512	NA
Surinam	Amblygonite (exports)	827	568	NA	NA	NA
Africa:						
Mozambique	Lepidolite	302	115	---	[r] 83	NA
Rhodesia, Southern	Eucryptite	866	1,164	806	[e] 705	NA
	Amblygonite	35	52	---	---	NA
	Lepidolite	21,244	16,157	22,943	[e] 17,700	NA
	Petalite	21,704	29,946	36,449	[e] 29,900	NA
	Spodumene	1,496	2,235	6,965	[e] 15,300	NA
Rwanda	Amblygonite	359	406	325	---	NA
South Africa, Republic of	Lithium minerals	1,263	417	179	[r] 958	[e] 440
South-West Africa	Amblygonite	141	128	13	39	[e] 30
	Lepidolite	1,781	86	407	298	[e] 130
	Petalite	1,008	865	798	1,332	[e] 2,140
Uganda	Amblygonite	22	53	22	[r] 22	[3] 78
Oceania: Australia	Petalite	94	427	233	[r] 347	[e] 310
	Amblygonite	31	22	---		
	Spodumene	26	24	58		

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available March 1967.

[2] U.S. figure withheld to avoid disclosing individual company confidential data.

[3] Exports.

Table 4.—South-West Africa: Exports of lithium mineral concentrates

Year	Amblygonite		Lepidolite		Petalite	
	Short tons	Value	Short tons	Value	Short tons	Value
1964	---	---	542	$12,211	1,151	$26,425
1965	669	NA	170	NA	1,110	[r] 23,846
1966 (January to June)	---	---	284	7,968	1,327	31,829

[r] Revised. NA Not available.

Table 5.—Southern Rhodesia: Exports of lithium mineral concentrates, by countries of destination

Country of destination	1964		1965	
	Short tons	Value	Short tons	Value
Belgium	14,513	$267,866	16,504	$305,793
Germany, West	---	---	400	14,231
Italy	904	10,096	4,611	68,214
Japan	7,429	206,822	3,463	91,901
Netherlands	4,327	95,423	6,552	140,726
South Africa, Republic of	409	5,822	324	6,599
United Kingdom	10,688	160,422	7,176	111,512
United States	36,014	770,698	16,894	361,219
Total	74,284	1,517,149	55,924	1,100,195

Magnesium Compounds

Table 1.—Salient magnesium compounds statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:[1]						
Caustic-calcined and specified magnesias:						
Shipments:						
Quantity	83	83	80	84	90	99
Value	$7,479	$8,069	$7,655	$8,562	$9,163	$9,686
Imports for consumption[2]:						
Value	$217	$395	$500	$493	$592	$743
Exports[2]:						
Value	$840	$427	$678	$1,654	$1,637	$1,627
Refractory magnesia:						
Shipments:						
Quantity	501	576	713	842	897	852
Value	$29,485	$35,186	$44,378	r $49,220	$56,100	$52,290
Imports:						
Value	$5,984	$5,520	$4,593	$3,180	$4,214	$8,139
Exports:						
Value	$4,682	$5,363	$5,620	$5,554	$5,912	$6,208
Dead-burned dolomite:						
Sold or used by producers:						
Quantity	1,966	1,857	1,949	2,168	r 2,176	2,193
Value	$32,260	$31,059	$33,058	$37,961	r $39,606	$39,725
Imports:						
Value	$448	$245	$455	$1,165	$2,385	$2,038
World: Crude magnesite:						
Production: Quantity	6,780	8,355	8,905	9,790	10,365	9,775

r Revised.

[1] Excludes caustic-calcined magnesia used in production of refractory magnesia, 1962–66.

[2] Caustic-calcined magnesia only.

Table 2.—Dead-burned dolomite sold in and imported into the United States

Year	Sales of domestic product		Imports[1]	
	Short tons	Value (thousands)	Short tons[2]	Value (thousands)
1957–61 (average)	1,966,080	$32,260	8,352	$448
1962	1,857,438	31,059	4,456	245
1963	1,948,953	33,058	8,890	455
1964	2,167,523	37,961	28,876	1,165
1965	r 2,175,800	r 39,606	55,250	2,385
1966	2,193,037	39,725	43,637	2,038

r Revised.

[1] Dead-burned basic-refractory material comprising chiefly magnesium and lime.

[2] Includes weight of immediate container.

Table 3.—Magnesium compounds produced and shipped in the United States

Year and product	Plants	Produced (short tons)	Shipped	
			Short tons	Value (thousands)
1965:				
Refractory magnesia [1]	11	---	r 897,082	r $56,100
Caustic-calcined [2] and Specified (U.S.P. and technical) magnesias	10	---	90,014	9,163
Magnesium hydroxide (100 percent Mg $(OH)_2$) [2]	8	---	67,324	r 2,577
Magnesium chloride [3]	7	305,990	305,789	25,023
Precipitated magnesium carbonate [2]	5	---	8,219	---
1966:				
Refractory magnesia [1]	11	---	852,129	52,290
Caustic-calcined [2] and Specified (U.S.P. and technical) magnesias	10	---	99,369	9,686
Magnesium hydroxide (100 percent Mg $(OH)_2$) [2]	8	---	74,632	3,138
Magnesium chlorides [3]	7	306,231	305,471	21,385
Precipitated magnesium carbonate [2]	5	---	9,407	---

r Revised.

[1] Includes both single-burned and double-burned.

[2] Excludes material produced as an intermediate step in the manufacture of other magnesium compounds.

[3] Includes magnesium chloride used in production of magnesium metal.

Table 4.—Domestic consumption of caustic-calcined magnesia and specified magnesias by uses

(Percent)

Use	1965	1966
Chemical processing	6	4
Fertilizer	5	9
85-percent MgO insulation	3	5
Oxychloride and oxysulfate cements	23	17
Pulp and paper	20	20
Rayon	14	13
Rubber	8	8
Other: Electrical, medicinal, flux, ceramic, glass, sugar, animal feed, fuel additive, water treatment, and uranium processing	21	24

Table 5.—U.S. exports of magnesite and magnesia, by countries

Destination	Magnesite and magnesia, dead-burned				Magnesite n.e.c.[1] including crude, caustic calcined, lump or ground			
	1965		1966		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
North America:								
Canada	21,217	$1,908	14,858	$1,696	914	$116	1,918	$185
Costa Rica	---	---	898	24	651	88	201	15
El Salvador	---	---	255	16	250	15	28	2
Mexico	24,800	1,778	84,040	2,557	474	53	864	41
Other	69	43	90	5	120	9	125	12
South America:								
Argentina	4,984	855	8,806	268	13	7	72	19
Chile	2,964	218	1,158	85	8	8	11	8
Colombia	---	---	10	6	238	16	651	47
Peru	1,828	103	2,940	196	66	4	5	1
Venezuela	4,906	360	5,709	382	298	40	406	50
Other	6	4	10	5	4	2	5	3
Europe:								
Belgium-Luxembourg	---	---	28	4	185	80	30	11
Denmark	5	3	---	---	41	25	52	27
France	15	5	3	1	150	54	105	47
Germany, West	193	75	231	103	427	266	405	191
Italy	228	26	1,165	102	174	69	209	90
Netherlands	1,135	76	1,007	70	66	41	60	24
Spain	1,519	124	---	---	29	14	31	14
Sweden	101	53	100	43	88	19	87	18
Switzerland	---	---	---	---	44	19	52	23
United Kingdom	700	149	942	232	899	523	1,129	437
Other	48	13	21	7	55	26	68	32
Africa:								
Congo (Kinshasa)	---	---	---	---	---	---	381	29
Malagasy Republic	127	17	---	---	---	---	193	26
South Africa, Republic of	88	44	77	41	123	54	51	27
Other	22	3	44	2	75	10	33	7
Asia:								
India	---	---	---	---	37	16	20	10
Israel	---	---	---	---	10	8	15	3
Japan	77	29	1	1	2	1	3	2
Philippines	4	1	18	5	16	4	43	9
Viet-Nam, South	8	1	11	5	16	2	83	9
Other	42	7	10	1	---	---	---	---
Oceania:								
Australia	7,103	508	6,338	856	277	121	308	162
New Zealand	15	9	---	---	117	87	83	51
Total	71,649	5,912	73,270	6,208	5,762	1,687	7,122	1,627

[1] Not elsewhere classified.

Table 6.—U.S. imports for consumption of crude and processed magnesite by countries

Country	1965 Short tons	1965 Value (thousands)	1966 Short tons	1966 Value (thousands)
Crude magnesite:				
North America: Canada	33	$(1)	-----	-----
Asia: India	17	1	311	$21
Total	50	1	311	21
Lump or ground caustic-calcined magnesia:				
Europe:				
Austria	756	27	931	34
Belgium-Luxembourg	162	12	55	4
Greece	225	18	82	6
Netherlands	282	17	161	11
Switzerland	1	(1)	-----	-----
United Kingdom	-----	-----	218	19
Yugoslavia	663	29	645	30
Africa: Tanzania	26	1	-----	-----
Asia:				
India	8,894	404	9,036	466
Turkey	193	14	1,395	95
Oceania: Australia	698	70	778	78
Total	11,900	592	13,301	743
Dead-burned and grain magnesia and periclase:				
Not containing lime or not over 4 percent:				
North America: Canada	52	4	138	9
Europe:				
Austria	46,589	2,554	38,271	2,261
Germany, West	---	---	1,131	92
Greece	10,559	705	24,810	1,868
United Kingdom	-----	-----	1	1
Yugoslavia	6,040	323	-----	-----
Asia:				
India	-----	-----	1	1
Japan	8,732	628	64,599	3,907
Total	71,972	4,214	128,951	8,139
Containing over 4 percent of lime:				
North America: Canada	1,917	109	2,332	136
Europe:				
Austria	29,599	1,161	22,030	935
Greece	-----	-----	664	43
Italy	2,250	107	-----	-----
Yugoslavia	21,484	1,008	18,611	924
Total	55,250	2,385	43,637	2,038
Grand total	127,222	6,599	172,588	10,177

(1) Less than ½ unit.

Table 7. U.S. imports for consumption of magnesium compounds

Year	Oxide or calcined magnesia		Magnesium carbonate (precipitated)		Magnesium chloride (anhydrous)		Magnesium sulfate (epsom salt)		Magnesium salts and compounds [1,2]		Manufactures of carbonate of magnesia	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)	311	$94	334	$75	850	$31	10,596	$252	2,160	$73	12	$3
1962	182	48	398	94	1,474	127	9,297	210	3,505	107	4	3
1963	93	39	623	119	668	23	8,543	187	3,625	128	---	---
1964	127	50	1,112	210	752	24	9,549	212	1,051	58	---	---
1965	148	47	1,250	225	366	11	6,640	127	3,599	134	5	2
1966	76	35	1,090	213	176	29	9,266	186	1,256	79	---	---

[1] Not specifically provided for.

[2] Includes magnesium silicofluoride or fluosilicate and calcined magnesia.

Table 8.—World production of magnesite by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America: United States	492,471	527,655	W	W	W
South America:					
Brazil	103,348	99,536	103,331	[r] 137,394	[e] 220,462
Colombia	110	276	243	209	[e] 209
Europe:					
Austria	1,771,863	1,447,099	1,826,058	2,001,363	1,779,829
Czechoslovakia [e]	440,000	475,000	530,000	550,000	NA
Greece	[r] 240,264	[r] 294,999	[e] 220,000	[e] 385,000	[e] 410,000
Italy	9,275	7,512	6,954	3,898	2,867
Poland	37,589	29,321	41,900	46,300	[e] 46,000
Spain	78,691	93,315	102,874	[e] 103,000	[e] 103,000
U.S.S.R. [e]	2,760,000	2,980,000	3,090,000	3,200,000	3,200,000
Yugoslavia	411,561	454,107	548,311	[r] 579,750	580,570
Africa:					
Kenya	-----	288	187	74	747
Rhodesia, Southern	11,619	12,067	42,410	[r] 39,242	[e] 33,000
South Africa, Republic of	102,352	108,309	93,443	95,789	102,847
Sudan	-----	-----	-----	-----	3,307
Tanzania	-----	94	546	1,260	5,270
Asia:					
China, mainland [e]	880,000	990,000	1,100,000	1,100,000	1,100,000
India	234,669	258,564	228,985	263,128	255,736
Iran	551	NA	6,033	NA	NA
Korea, North [e]	550,000	880,000	990,000	990,000	1,100,000
Pakistan	336	968	680	577	[e] 550
Turkey	10,736	19,750	43,065	83,320	45,903
Oceania:					
Australia	69,654	63,780	35,001	[r] 28,405	[e] 11,000
New Zealand	711	875	676	937	624
World total [e]	[r] 8,355,000	[r] 8,905,000	[r] 9,790,000	[r] 10,365,000	9,775,000

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[e] Estimate. [p] Preliminary. [r] Revised. W Withheld to avoid disclosing individual company confidential data.

[1] Quantities in this table represent crude magnesite mined. Magnesite is also produced in Bulgaria and Canada, but data on production are not available; estimates by author of chapter included in total.

[2] Compiled mostly from data available June 1967.

Table 9.—Austria: Exports of magnesia and magnesite brick by countries

(Short tons)

Destination	Magnesia				Magnesite brick	
	Caustic-calcined		Refractory			
	1965	1966	1965	1966	1965	1966
North America: United States	953	733	85,058	64,672	139	169
South America:						
Argentina	15	68	9,559	3,032	2,484	1,506
Chile	---	---	1,683	1,419	3,046	2,787
Europe:						
Belgium-Luxembourg	153	219	1,558	819	8,328	5,535
Denmark	3,131	3,525	667	104	4,119	4,084
Finland	17	116	815	1,349	2,812	3,181
France	1,961	2,212	19,406	17,829	23,852	21,613
Germany, West	88,938	80,318	127,332	99,896	25,061	22,820
Greece	---	---	601	570	1,937	2,060
Hungary	3,614	3,044	10,466	13,857	---	---
Italy	4,267	4,172	13,103	14,968	5,196	6,439
Netherlands	440	439	100	98	1,596	1,543
Norway	17	33	374	555	2,211	2,379
Poland	---	---	---	230	2,243	5,789
Portugal	25	---	184	592	538	1,057
Rumania	---	---	2,363	72	5,383	1,321
Spain	44	245	799	3,315	5,101	5,162
Sweden	965	849	2,637	5,885	19,839	21,173
Switzerland	3,545	3,588	571	1,370	1,970	1,620
United Kingdom	778	186	23,134	12,289	25,990	18,739
Africa:						
Rhodesia, Southern	---	---	---	16	228	366
South Africa, Republic of	---	---	109	89	1,986	4,117
Tunisia	---	---	87	84	1,293	1,443
Zambia	---	---	74	113	2,098	4,776
Asia:						
India	---	---	4	540	16	---
Israel	---	487	726	687	273	298
Turkey	---	72	551	728	4,592	2,037
Oceania:						
Australia	---	---	62	87	1,501	2,447
New Caledonia	---	---	98	---	2,189	---
Other countries	733	588	1,303	1,618	3,566	6,279
Total	109,596	100,894	303,424	246,883	159,587	150,740

Table 10.—Netherlands: Exports of refractory magnesia, by countries

(Short tons)

Destination	1965	1966
Belgium-Luxembourg	1,367	1,460
France	142	719
Germany, West	9,114	10,000
Italy	60	82
Other countries	24,074	18,164
Total	34,757	30,425

Mica

Table 1.—Salient mica statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Domestic, sold or used by producers:						
Sheet mica..thousand pounds..	634	363	103	243	716	5
Value........thousands..	$3,050	$1,299	$13	$58	$185	$1
Scrap and flake mica thousand short tons..	97	108	109	115	120	113
Value........thousands..	$2,391	$2,639	$2,776	$3,353	$3,468	$3,733
Ground mica thousand short tons..	100	114	117	116	127	103
Value........thousands..	$5,588	$6,489	$6,805	$6,902	$7,615	$6,247
Consumption, block and film thousand pounds..	2,875	2,811	2,298	2,618	2,659	2,818
Value............thousands..	$4,070	$3,490	$2,782	$3,002	$3,188	$3,642
Consumption, splittings thousand pounds..	6,466	6,728	6,687	7,608	8,260	7,100
Value............thousands..	$3,069	$2,813	$2,588	$3,149	$3,701	$3,221
Exports......thousand short tons..	5	4	4	5	4	6
Imports for consumption....do....	10	10	13	8	9	7
World: Production...thousand pounds..	280,000	390,000	400,000	410,000	435,000	415,000

Table 2.—Mica sold or used by producers in the United States

Year and State	Sheet mica						Scrap and flake mica [2]	
	Uncut punch and circle mica		Uncut mica larger than punch and circle [1]		Total sheet mica			
	Pounds	Value	Pounds	Value	Pounds	Value	Short tons	Value
1957–61 (average)	356,192	$29,088	278,048	$3,020,942	634,240	$3,050,030	96,856	$2,390,752
1962............	263,123	23,450	99,893	1,275,828	363,016	1,299,278	107,702	2,639,297
1963............	97,828	9,206	5,133	3,698	102,961	12,904	109,828	2,776,881
1964............	220,586	37,693	22,076	20,788	242,662	58,481	114,729	3,352,572
1965............	670,506	139,844	45,580	45,142	716,086	184,986	120,255	3,467,701
1966:								
Georgia.....	-----	-----	-----	-----	-----	-----	16,608	379,600
North Carolina...	4,500	905	-----	-----	4,500	905	63,480	2,347,664
Other [3]......	-----	-----	-----	-----	-----	-----	33,045	1,004,978
Total.....	4,500	905	-----	-----	4,500	905	113,133	3,732,242

[1] Includes the full-trimmed mica equivalent of hand-cobbed mica, 1957–62.

[2] Includes finely divided mica recovered from mica and sericite schist, and mica that is a byproduct of feldspar and kaolin beneficiation.

[3] Alabama, Arizona, California, Connecticut, New Mexico, Pennsylvania, South Carolina and South Dakota.

Table 3.—Ground mica sold by producers in the United States by methods of grinding [1]

Year	Dry-ground		Wet-ground		Total	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
1957–61 (average)........	87,599	$3,683	12,817	$1,905	100,416	$5,588
1962....................	99,936	4,351	13,851	2,138	113,787	6,489
1963....................	101,943	4,596	15,308	2,209	117,251	6,805
1964....................	99,245	4,397	16,725	2,505	115,970	6,902
1965....................	110,600	5,316	15,997	2,299	126,597	7,615
1966....................	87,361	4,110	16,089	2,137	103,450	6,247

[1] Domestic and some imported scrap.

Table 4.—Fabrication of muscovite ruby and nonruby block and film mica and phlogopite block mica, by qualities and end-product uses in the United States in 1966

(Thousand pounds)

Variety, form, and quality	Electronic uses				Nonelectronic uses			
	Capacitors	Tubes	Other	Total	Gage glass and diaphragms	Other	Total	Grand total [1]
Muscovite:								
Block:								
Good Stained or better	1	17	5	24	6	---	6	30
Stained	4	1,016	31	1,051	3	11	13	1,064
Lower than Stained [2]	20	667	146	834	21	714	735	1,568
Total	26	1,700	182	1,908	30	724	754	2,662
Film:								
First quality	7	---	---	7	---	---	---	7
Second quality	78	---	(3)	79	---	---	---	79
Other quality	4	---	---	4	---	---	---	4
Total	89	---	(3)	89	---	---	---	89
Block and film:								
Good Stained or better [4]	86	17	6	110	6	---	6	115
Stained [5]	8	1,016	31	1,054	3	11	13	1,068
Lower than Stained	20	667	146	834	21	714	735	1,568
Total	115	1,700	183	1,998	30	724	754	2,752
Phlogopite: Block (all qualities)	---	---	3	3	---	58	58	61

[1] Data may not add to totals shown due to rounding.
[2] Includes punch mica.
[3] Less than ½ unit.
[4] Includes first- and second-quality film.
[5] Includes other-quality film.

Table 5.—Fabrication of muscovite ruby and nonruby block and film mica in the United States in 1966 by qualities and grades

(Pounds)

Form, variety, and quality	Grade					
	No. 4 and larger	No. 5	No. 5½	No. 6	Other [1]	Total
Block:						
Ruby:						
Good Stained or better	5,767	1,801	700	7,481	-----	15,749
Stained	12,046	67,832	99,367	726,517	101,140	1,006,902
Lower than Stained	123,644	200,498	45,804	599,961	488,657	1,458,564
Total	141,457	270,131	145,871	1,333,959	589,797	2,481,215
Nonruby:						
Good Stained or better	2,677	520	4,160	4,860	1,628	13,845
Stained	730	26,092	7,010	23,396	-----	57,228
Lower than Stained	16,000	40,000	2,000	1,900	50,000	109,900
Total	19,407	66,612	13,170	30,156	51,628	180,973
Film:						
Ruby:						
First quality	1,470	625	800	1,050	-----	3,945
Second quality	46,185	21,792	5,119	3,440	-----	76,536
Other quality	-----	-----	-----	-----	3,800	3,800
Total	47,655	22,417	5,919	4,490	3,800	84,281
Nonruby:						
First quality	-----	-----	1,900	1,250	-----	3,150
Second quality	-----	-----	2,000	-----	-----	2,000
Other quality	-----	-----	-----	-----	-----	-----
Total	-----	-----	3,900	1,250	-----	5,150

[1] Figures for block mica include all smaller than No. 6 grade and "punch" mica.

Table 6.—Consumption and stocks of mica splittings in the United States, by sources

(Thousand pounds and thousand dollars)

	Indian		Malagasy		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
Consumption:						
1957–61 (average)	6,086	$2,774	[1] 380	[1] $295	6,466	$3,069
1962	6,382	2,559	346	254	6,728	2,813
1963	6,406	2,413	281	175	6,687	2,588
1964	7,261	2,949	347	200	7,608	3,149
1965	7,948	3,513	312	188	8,260	3,701
1966	6,749	3,005	351	216	7,100	3,221
Stocks Dec. 31:						
1957–61 (average)	3,355	1,653	[2] 313	[2] 229	3,668	1,882
1962	3,588	NA	143	NA	3,731	NA
1963	2,908	NA	172	NA	3,080	NA
1964	3,523	NA	245	NA	3,768	NA
1965	3,912	NA	210	NA	4,122	NA
1966	3,669	NA	206	NA	3,875	NA

NA Not available.

[1] Includes Canadian, 1957–59.

[2] Includes Canadian, 1957–58.

Table 7.—Built-up mica [1] sold or used in the United States, by products

(Thousand pounds and thousand dollars)

Product	1965		1966	
	Quantity	Value	Quantity	Value
Molding plate	1,344	$4,159	1,144	$3,315
Segment plate	1,427	3,311	1,607	3,518
Heater plate	414	W	444	1,273
Flexible (cold)	611	1,536	814	1,961
Tape	1,708	6,729	1,384	5,063
Other	180	2,048	187	601
Total	5,684	17,783	5,580	15,731

W Withheld to avoid disclosing individual company confidential data; included with "Other."

[1] Consists of alternate layers of binder and irregularly arranged and partly overlapped splittings.

Table 8.—Ground mica sold by producers in the United States, by uses

Use	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Roofing	30,847	$1,057	26,211	$887
Wallpaper	W	87	W	W
Rubber	r 7,020	r 786	7,356	770
Paint	20,286	1,816	17,192	1,558
Plastics	r 1,006	r 132	927	128
Welding rods	745	32	799	39
Joint cement	38,767	2,531	24,860	1,604
Other uses [1]	r 27,926	r 1,174	26,105	1,261
Total	126,597	7,615	103,450	6,247

r Revised.

W Withheld to avoid disclosing individual company confidential data, included with "Other uses."

[1] Includes mica used for molded electric insulation, house insulation, Christmas tree snow, annealing, well drilling, other purposes and uses indicated by symbol W.

Table 9.—Price of dry- or wet-ground mica in the United States in 1966 [1]

Mica	Cents per pound
Dry-ground:	
Paint, 100 mesh	3¾
Plastic, 100 mesh	3¾
Roofing, 20 to 80 mesh	2–3
Wet-ground: [2]	
Biotite	7
Biotite, less than carlots [3]	8
Paint or lacquer, 325 mesh	8
Paint or lacquer, 325 mesh, less than carlots [3]	9
Rubber	8
Rubber, less than carlots [3]	9
Wallpaper	9

[1] In bags at works, carlots, unless otherwise noted.

[2] Freight allowed east of the Mississippi River, ½ cent higher west of the Mississippi River, 1 cent higher west of the Rockies.

[3] Ex-warehouse or freight allowed east of the Mississippi River.

Source: Oil, Paint and Drug Reporter.

Table 10.—U.S. exports of mica and manufactures of mica, in 1966 by countries

Destination	Mica, including sheet, waste and scrap and ground		Manufactured	
	Pounds	Value (thousands)	Pounds	Value (thousands)
North America:				
Bahamas	-----	-----	3,144	$5
Canada	3,945,447	$312	225,898	781
Dominican Republic	22,500	2	187	1
Guatemala	48,312	2	1,660	9
Jamaica	32,000	1	138	1
Mexico	125,183	67	23,323	107
Nicaragua	30,000	1	1,440	2
Panama	4,000	(1)	163	2
Trinidad and Tobago	102,500	8	34	1
Other	30,283	3	3,418	8
South America:				
Argentina	6,600	(1)	11,917	31
Brazil	4,409	4	25,712	56
Chile	18,972	4	6,624	73
Colombia	472,000	22	10,666	25
Ecuador	59,100	4	780	2
Guyana	10,000	1	34	(1)
Peru	272,564	16	2,068	3
Venezuela	881,004	51	1,807	10
Other	---	---	1,129	5
Europe:				
Belgium-Luxembourg	284,600	26	549	2
Finland	-----	-----	49,506	50
France	415,430	32	5,131	22
Germany, West	166,500	62	51,031	65
Greece	-----	-----	1,772	6
Iceland	10,000	1	-----	-----
Italy	227,149	9	10,208	52
Netherlands	62,000	3	20,828	35
Spain	121,000	7	159	1
Sweden	24,200	2	31,012	37
Switzerland	2,200	2	284	1
United Kingdom	58,608	12	4,772	32
Other	4,000	(1)	898	2
Africa:				
Angola	20,000	2	-----	-----
Congo (Kinshasa)	8,800	1	236	1
Libya	620,500	52	50	1
Morocco	33,985	3	85	1
Nigeria	141,440	17	293	1
South Africa, Republic of	64,000	2	6,773	58
Spanish Africa, n.e.c.	10,000	1	868	11
Other	500	(1)	4,263	9
Asia:				
Arabia	1,610,000	112	-----	-----
Bahrain	190,000	12	2,046	3
India	5,554	5	1,377	10
Iran	143,900	9	87	1
Israel	4,400	(1)	610	3
Japan	110,654	13	53	1
Kuwait	252,300	30	---	---
Lebanon	6,000	1	---	---
Philippines	93,200	9	1,150	6
Turkey	5,000	1	2,100	14
Other	4,000	(1)	10,785	32
Oceania:			10,488	
Australia	23,400	3		33
New Zealand	22,000	2	---	---
Total	10,810,194	929	537,556	1,612

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[1] Less than ½ unit.

Table 11.—U.S. exports and imports of mica

(Thousand pounds and thousand dollars)

Year	Imports for consumption						Exports	
	Uncut sheet and punch		Scrap		Manufactured		All classes	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	1,837	$3,986	9,264	$58	9,556	$7,306	9,204	$1,309
1962	1,111	1,796	8,916	55	10,806	7,922	8,055	1,363
1963	1,134	1,615	16,300	132	8,705	5,950	8,042	1,392
1964	2,267	2,434	5,465	71	8,867	4,566	9,087	1,586
1965	2,116	2,142	3,043	71	9,942	6,541	8,826	2,228
1966	3,247	3,993	2,642	71	7,535	6,670	11,348	2,541

Table 12.—U.S. imports for consumption of mica by kinds and countries

Year and country	Unmanufactured [1]							
	Waste and scrap, valued not more than 5 cents per pound				Other			
	Phlogopite		Other		Muscovite and other mica, n.e.s.		Block [2]	
	Pounds	Value (thousands)	Pounds	Value (thousands)	Pounds	Value (thousands)	Pounds	Value (thousands)
1957–61 (average)	19,228	$(3)	9,244,389	$58	1,836,795	$3,986	---	---
1962	---	---	8,916,421	55	1,110,739	1,796	---	---
1963	224,622	7	16,075,434	125	1,133,521	1,616	419,409	$430
1964	629,338	12	4,836,410	59	942,547	1,192	1,825,134	1,242
1965	330,866	11	2,712,489	60	458,426	615	1,657,687	1,527
1966:								
North America:								
Canada	117,460	2	82,500	2	---	---	200	(3)
Leeward and Windard Island	---	---	---	---	---	---	1,080	1
Mexico	---	---	---	---	1,535	2	---	---
South America:								
Argentina	---	---	---	---	131,174	17	1,218	1
Brazil	---	---	1,090,343	27	399,223	437	1,561,838	1,678
Europe:								
France	---	---	---	---	150	9	---	---
United Kingdom	---	---	---	---	110	9	6,950	8
Africa:								
Malagasy Republic	219,194	12	---	---	87,411	108	---	---
Mozambique	---	---	---	---	6,063	10	---	---
Rhodesia	---	---	---	---	2,866	5	---	---
South Africa, Republic of	---	---	224,000	4	---	---	---	---
Tanzania	---	---	---	---	25,908	68	5,559	6
Zambia	---	---	---	---	2,067	2	---	---
Asia:								
India	9,375	2	899,476	22	70,564	473	948,278	1,164
Turkey	---	---	---	---	77	(3)	---	---
Total	346,029	16	2,296,319	55	727,148	1,140	2,520,123	2,853

Table 12.—U.S. imports for consumption of mica by kinds and countries—Continued

Year and country	Manufactured—films and splittings: Not cut or stamped to dimensions: Not above 12/10,000 of an inch in thickness: Pounds	Value (thousands)	Over 12/10,000 of an inch in thickness: Pounds	Value (thousands)	Cut or stamped to dimensions: Pounds	Value (thousands)	Total films and splittings: Pounds	Value (thousands)
1957-61 (average)	7,395,225	$3,367	1,877,984	$2,277	68,567	$1,044	9,341,776	$6,688
1962	8,615,571	2,815	1,746,221	2,554	98,645	1,687	10,460,437	7,056
1963	6,820,647	2,330	1,551,752	1,824	70,488	1,175	8,442,887	5,329
1964	8,505,460	2,902	93,902	338	45,223	845	8,644,585	4,085
1965	9,460,061	3,493	209,058	666	89,209	1,788	9,758,328	5,947
1966:								
North America:								
Jamaica	---	---	---	---	335	1	335	1
Leeward and Windward Island	---	---	48	(³)	5,314	17	5,362	17
Mexico	---	---	1,405	12	6,141	177	7,546	189
Panama	---	---	500	4	---	---	500	4
Trinidad and Tobago	---	---	---	---	555	2	555	2
South America:								
Argentina	---	---	200	1	---	---	200	1
Brazil	69,146	66	34,468	74	3,462	13	107,076	153
Europe:								
Austria	---	---	---	---	851	7	851	7
France	---	---	---	---	87	2	87	2
Germany, West	9,811	5	---	---	1	1	9,812	6
Italy	3,108	(³)	---	---	---	---	3,108	(³)
United Kingdom	15,587	6	2,500	14	7,025	188	25,112	208
Africa:								
Malagasy Republic	319,566	219	1,102	4	---	---	320,668	223
Malawi	2,646	7	---	---	---	---	2,646	7
Rhodesia	---	---	1,325	4	---	---	1,325	4
South Africa, Republic of	6,503	8	---	---	---	---	6,503	8
Tanzania	180	1	6,617	8	---	---	6,797	9
Asia:								
Gaza Strip	---	---	---	---	84	2	84	2
India	6,354,042	2,373	182,169	700	110,979	2,129	6,647,190	5,202
Japan	---	---	61,127	11	4,969	147	66,096	158
Laos	---	---	---	---	20	1	20	1
Turkey	17,306	9	---	---	---	---	17,306	9
Total	6,797,895	2,694	291,461	832	139,823	2,687	7,229,179	6,213

Year and country	Manufactured—cut or stamped to dimensions, shape or form: Pounds	Value (thousands)	Manufactured—other: Mica plates and built-up mica: Pounds	Value (thousands)	All mica manufactures of which mica is the component material of chief value: Pounds	Value (thousands)	Ground or pulverized: Pounds	Value (thousands)
1957-61 (average)	9,492	$14	43,965	$51	118,870	$550	41,857	$3
1962	1,537	8	141,739	105	132,920	749	69,000	4
1963	1,660	12	127,425	100	102,198	508	31,488	2
1964	2,093	15	115,786	85	81,393	380	23,000	1
1965	614	7	10,502	13	85,145	396	86,566	8
1966:								
North America:								
Canada	---	---	16,158	48	3,533	10	40,000	1
Mexico	---	---	---	---	4,914	36	---	---
South America: Brazil	278	(³)	---	---	4,406	13	---	---
Europe:								
Belgium-Luxembourg	---	---	32,980	30	7,017	15	---	---
France	---	---	---	---	1,188	20	108,246	10
Germany, West	---	---	3,576	6	58	2	---	---
Netherlands	---	---	---	---	1,607	45	---	---
Switzerland	---	---	93	1	---	---	---	---
United Kingdom	86	5	---	---	5,879	60	---	---
Africa: Rhodesia	---	---	---	---	9,939	7	---	---
Asia:								
India	1,286	11	398	2	63,876	129	---	---
Japan	---	---	---	---	1,365	6	---	---
Total	1,650	16	53,205	87	103,782	343	148,246	11

[1] In addition to classes shown, 1,500 pounds ($348) of untrimmed phlogopite from which no piece over 2 by 1 inch may be cut was imported from Canada.

[2] Not separately classified prior to Sept. 1, 1963.

[3] Less than ½ unit.

Table 13.—World production of mica by countries [1]

(Thousand pounds)

Country	1962	1963	1964	1965	1966 ^{p}[2]
North America:					
Canada (shipments):					
Block	132	16	89	^{r}548	340
Splittings	---	---	---		
Ground	610	814	616		
Scrap	456	353	494		
Guatemala	---	---	---	22	37
Mexico	---	---	---	---	873
United States (sold or used by producers):					
Sheet	363	103	243	716	5
Scrap	215,404	218,646	229,458	240,510	226,263
South America:					
Argentina:					
Sheet	108	196	^{r}315	^{r}231	1,296
Waste and splittings	---	---	1,173	260	
Brazil	3,885	3,289	3,241	^{r}3,089	^{e}3,090
Europe:					
Austria [3]	33	---	---	---	---
France	190	381	646	^{r}430	^{e}440
Germany, West	20	11	18	^{r}26	^{e}25
Norway, including scrap	2,200	---	8,818	6,614	^{e}6,610
Sweden (ground)	126	44	46	---	---
Yugoslavia	4	77	26	^{r}119	44
Africa:					
Angola:					
Scrap and splittings	108	---	---	---	---
Kenya	2	2	(4)	---	---
Malagasy Republic (phlogopite):					
Block	181	214	205	201	141
Splittings	2,780	1,914	1,299	1,186	1,440
Mozambique, including scrap	2	---	---	22	NA
Rhodesia, Southern:					
Block	33	60	75	64	NA
Crude	172	225	157	^{r}181	NA
South Africa, Republic of:					
Sheet	2	40	104	2	1
Scrap	4,900	4,680	6,764	5,000	4,925
South-West Africa	150	1,197	831	260	55
Tanzania (exports):					
Sheet	218	236	211	227	194
Scrap	---	---	324	370	880
Zambia, sheet	---	---	4	9	NA
Asia:					
India (exports):					
Block	4,396	3,979	4,264	3,179	3,662
Splittings	18,838	15,595	19,378	20,781	14,138
Scrap [5]	45,523	55,547	42,256	58,781	54,901
Korea, South	---	---	---	1,036	---
Pakistan	---	2	9	15	---
Oceania: Australia:					
Scrap	---	---	33	---	---
Damourite	1,087	1,102	1,270	^{r}1,510	^{e}1,540
World total ^{e}	390,000	400,000	410,000	435,000	415,000

^{e} Estimate. ^{p} Preliminary. ^{r} Revised. NA Not available.

[1] Mica is also produced in China, Rumania, and U.S.S.R., but data on production are not available; estimates are included in the total for China and U.S.S.R.

[2] Compiled mostly from data available June 1967.

[3] Including reclaimed from dumps.

[4] Less than ½ unit.

[5] Includes condenser film as follows: 1962, 412,000 pounds; 1963, 234,000 pounds; 1964, 198,000 pounds; 1965, 176,000 pounds; and 1966, 212,000 pounds.

Nitrogen

Table 1.—Salient nitrogen statistics

(Thousand short tons of contained nitrogen)

	1957–61 (average)	1962	1963	1964	1965	1966 [p]
United States:						
Production as ammonia	3,644	4,920	5,656	6,447	7,334	8,948
Production as high-purity nitrogen gas	549	1,554	1,939	2,189	2,802	3,549
Exports of nitrogen compounds	228	246	219	337	459	707
Imports for consumption of nitrogen compounds	300	383	401	494	496	566
Consumption [1]	3,774	4,862	5,454	[r] 6,117	[r] 6,655	7,260
World: Production [1]	13,062	16,320	18,864	[r] 21,338	[r] 24,101	27,000

[p] Preliminary. [r] Revised.

[1] Estimated, excludes nitrogen gas.

Table 2.—Nitrogen production in the United States

(Short tons of contained nitrogen)

	1962	1963	1964	1965 [r]	1966 [p]
Anhydrous ammonia: Synthetic plants [1]	4,778,106	5,504,581	6,278,717	7,164,160	8,768,113
Ammonia compounds, coking plants:					
Ammonia liquor	11,166	12,059	13,325	13,131	11,455
Ammonium sulfate	124,112	131,385	144,362	146,992	158,935
Ammonium phosphates	6,909	8,234	10,638	9,823	9,443
Total	4,920,293	5,656,259	6,447,042	7,334,106	8,947,946
Nitrogen gas [1]	[r] 1,553,632	[r] 1,939,025	[r] 2,189,120	2,801,637	3,548,789

[p] Preliminary. [r] Revised.

[1] Bureau of the Census Current Industrial Reports.

Table 3.—Major nitrogen compounds produced in the United States

(Thousand short tons, gross weight)

Compounds	1965 [r]	1966 [p]
Ammonium nitrate	4,623	5,028
Ammonium sulfate	2,691	2,876
Ammonium phosphate	2,913	3,700
Nitric acid	4,890	5,333
Urea	1,287	1,770

[p] Preliminary. [r] Revised.

Sources: Bureau of the Census; Tariff Commission.

The following new ammonia plants and plant expansions were reported on stream in 1966:

State and Company	Plant location	Added NH_3 capacity, 1,000 short tons per year
Arkansas:		
Continental Oil Co	Blytheville	350
California:		
Collier Carbon & Chemical Corp	Brea	260
Hercules, Inc	Hercules	70
Valley Nitrogen Producers, Inc	El Centro	200
Iowa:		
Green Valley Chemical Corp	Creston	35
Louisiana:		
Air Products and Chemicals, Inc.[1]	New Orleans	210
American Cyanamid Co	Fortier	350
Borden Chemical Co	Geismar	350
First Nitrogen Corp	Donaldsonville	350
Olin Mathieson Chemical Corp.[1]	Lake Charles	500
Mississippi:		
Coastal Chemical Corp	Yazoo City	350
Nebraska:		
Phillips Chemical Corp.[1]	Beatrice	220
Oregon:		
Shell Chemical Co	St. Helens	75
Texas:		
The Dow Chemical Co	Freeport	105
Mobil Chemical Co	Beaumont	260

[1] Reported as completed in 1965 Minerals Yearbook.

Additional new anhydrous ammonia plants and expansions either planned or under construction were announced as follows:

State and Company	Plant location	Added NH_3 capacity, 1,000 tons per year	Completion date
Alaska:			
Collier Carbon & Chemical Corp	Cook Inlet	500	1968
Iowa:			
Sinclair Petrochemicals, Inc	Fort Madison	250	1968
Terra Chemicals International, Inc	Port Neal	210	1967
Louisiana:			
Allied Chemical Corp	Geismar	350	1967
Chevron Chemical Co	Pascagoula	500	1967
Commercial Solvents Corp.[1]	Sterlington	350	1967
Gulf Oil Corp	Donaldsonville	350	1968
New York:			
Agway, Inc. and Felmont Oil Corp	Olean	85	1967
Pennsylvania:			
United States Steel Corp	Clairton	385	1967
Texas:			
E. I. du Pont de Nemours & Co., Inc.[1]	Beaumont	350	1967
Tuloma Gas Products Co	Texas City	500	1967
West Virginia:			
E. I. du Pont de Nemours & Co., Inc.[1]	Belle	350	1967
Wyoming:			
Wycon Chemical Co	Cheyenne	100	1967

[1] Upon completion, the original plant will be shut down.

Table 4.—Price quotations for major nitrogen compounds in 1966

(Per short ton)

Compound	Jan. 3	Dec. 26	Effective date of change
Ammonium nitrate, fertilizer grade, 33.5 percent N (nitrogen):			
Canadian carlots, bags, f.o.b. shipping point	$72	$72	
Domestic f.o.b. works, bags	69–70	[1] 69	Nov. 28
Ammonium nitrate, domestic with dolomite, 20.5 percent N bags, carlots, Hopewell, Va.	55	48	Aug. 8
Ammonium sulfate, standard granular, bulk, f.o.b. works	32–34	[2] 32	Dec. 26
Anhydrous ammonia, fertilizer, tanks, works, freight equalized east of Rockies	92	92	([3])
Sodium nitrate, domestic, commercial, bulk, carlots, works	44	44	
Sodium nitrate, imported, commercial, bulk, carlots, port warehouse	44	44	
Urea:			
Industrial, 46 percent N, bags, carlots, delivered, freight equalized	100	100	
Agricultural, 45 percent N, bags, carlots, delivered	96	90	Aug. 8

[1] Quoted at $66 from Aug. 8 to Nov. 28.
[2] Quoted at $29 from Nov. 28 to Dec. 26.
[3] Quoted at $84 from Aug. 8 to Oct. 10.
Source: Oil, Paint and Drug Reporter.

Table 5.—U.S. exports and imports for consumption of major nitrogen compounds

(Thousand short tons)

Compounds	1965		1966	
	Gross weight	Nitrogen content	Gross weight	Nitrogen content
Exports:				
Industrial chemicals: Anhydrous ammonia and chemical-grade aqua (ammonium content)	64	53	54	44
Fertilizer materials:				
Ammonium nitrate	104	35	87	29
Ammonium phosphates and other nitrogenous phosphatic-type fertilizer materials	320	48	772	116
Ammonium sulfate	962	202	1,610	338
Anhydrous ammonia and aqua (ammonia content)	120	99	172	142
Nitrogenous chemical materials, not elsewhere classified	34	7	25	5
Sodium nitrate	(1)	(1)	(1)	(1)
Urea	34	15	74	33
Total	1,638	459	2,794	707
Imports:				
Industrial chemicals: Ammonium nitrate	(1)	(1)	1	(1)
Fertilizer materials:				
Ammonium nitrate	177	58	154	51
Ammonium nitrate-limestone mixtures	2	(1)	(1)	(1)
Ammonium phosphates	174	26	179	27
Ammonium sulfate	181	38	160	34
Calcium cyanamide or lime nitrogen	19	5	19	5
Calcium nitrate	33	5	38	6
Nitrogen solutions	74	26	82	29
Anhydrous ammonia	203	167	311	255
Potassium nitrate or saltpeter, crude	4	(1)	27	3
Potassium nitrate, sodium nitrate mixtures	7	1	40	6
Sodium nitrate	392	63	321	51
Urea	226	103	209	95
Other	20	4	20	4
Total	1,512	496	1,561	566

[1] Less than ½ unit.

Table 6.—World production and consumption of nitrogen compounds, years ended June 30, by principal countries

(Thousand short tons of contained nitrogen)

Country	Production [e]			Consumption [e]		
	1963–64	1964–65	1965–66	1963–64	1964–65	1965–66
Argentina	4	4	4	33	37	35
Australia	25	34	45	80	76	85
Austria	202	222	243	91	97	111
Belgium	295	380	392	155	165	184
Brazil	15	10	17	68	77	83
British West Indies	---	---	---	19	21	21
Bulgaria	123	244	281	111	207	258
Canada	515	553	606	209	241	259
Ceylon	---	---	---	44	44	41
Chile	200	214	202	45	66	41
China	613	683	904	1,060	1,164	1,619
Colombia	39	46	43	23	35	44
Cuba	17	---	---	88	84	97
Czechoslovakia	179	185	255	214	234	290
Denmark	---	23	28	173	198	211
Finland	75	87	79	90	107	109
France	1,216	1,335	1,379	1,052	1,086	1,098
Germany:						
East	421	414	439	346	419	507
West	1,739	1,809	1,980	1,164	1,253	1,379
Greece	32	39	84	173	146	150
Hungary	98	109	176	230	235	261
India	254	287	299	482	584	640
Indonesia	17	52	52	87	91	88
Ireland	---	---	37	36	30	41
Israel	29	31	32	30	33	31
Italy	994	1,067	1,129	532	585	647
Japan	1,738	1,874	2,164	1,113	1,182	1,213
Korea:						
North	99	99	116	110	103	116
South	63	71	83	169	254	281
Malawi, Southern Rhodesia, Zambia	---	---	---	25	51	35
Mexico	133	155	171	244	292	300
Netherlands	546	606	644	341	345	367
Norway	387	408	414	89	95	98
Pakistan	96	88	93	110	88	179
Peru	19	22	32	41	55	56
Philippines	9	10	11	53	39	43
Poland	424	460	502	431	466	554
Portugal	118	129	132	88	106	110
Rumania	94	119	183	98	120	174
South Africa, Republic of	132	146	153	196	200	186
Spain	205	291	310	413	465	468
Sweden	83	80	131	157	177	213
Switzerland	35	36	42	36	35	35
Taiwan	121	175	186	170	212	218
Turkey	35	35	36	45	66	94
U.S.S.R.	1,932	2,314	2,989	1,774	2,251	2,895
United Arab Republic (Egypt)	126	166	169	238	280	297
United Kingdom	895	899	994	922	886	965
United States	5,469	6,396	7,067	5,746	6,487	6,823
Viet-Nam, South	---	---	---	51	22	15
Yugoslavia	75	103	105	214	229	185
Other:						
North America [1]	64	91	82	117	122	88
South America	14	17	19	28	32	42
Europe	9	9	11	28	26	24
Asia	10	15	18	169	174	190
Africa	---	---	---	132	139	142
Oceania	---	---	---	17	22	12
World total	20,033	22,642	25,563	20,000	22,336	24,748

[e] Estimated.

[1] Includes Central America.

Source: Nitrogen. No. 45. Jan.–Feb. 1967, pp. 17–18.

Table 7.—Chile: Exports of nitrate in 1966, by countries

Destination	Short tons	Destination	Short tons
Argentina	10,773	Japan	29,817
Australia	2,756	Lebanon	5,758
Belgium	25,226	Mexico	17,378
Brazil	48,287	Netherlands	47,759
Canada	7,152	Peru	3,965
China	13,063	Spain	92,120
Denmark	21,736	Sweden	3,858
Ecuador	1,157	United Kingdom	13,869
France	16,746	United States	395,972
Greece	16,099	Others [1]	74,905
India	11,047		
Italy	27,989	Total	887,432

[1] Includes Bolivia, Colombia, El Salvador, Israel, Nicaragua, Panama, Syria, Uruguay, and material in transit.

Perlite

Table 1.—Crude and expanded perlite produced and sold or used by producers in the United States

(Thousand short tons and thousand dollars)

Year	Quantity mined	Crude perlite					Expanded perlite		
		Sold		Used at own plant to make expanded material		Total quantity sold and used	Quantity produced	Sold	
		Quantity	Value	Quantity	Value			Quantity	Value
1957–61 (average)	399	204	$1,742	104	$876	308	251	247	$12,944
1962	408	198	1,611	122	1,052	320	238	234	12,536
1963	404	203	1,631	122	1,096	325	272	270	14,497
1964	427	211	1,845	139	1,228	350	320	319	14,533
1965	502	231	1,731	161	1,621	392	343	344	15,391
1966	548	193	1,799	211	2,108	404	394	394	16,403

Table 2.—Expanded perlite produced and sold by producers in the United States

State	1965				1966			
	Quantity produced (short tons)	Sold			Quantity produced (short tons)	Sold		
		Quantity (short tons)	Value	Average value per ton		Quantity (short tons)	Value	Average value per ton
California	29,650	29,700	$1,568,000	$52.79	26,950	26,680	$1,434,000	$53.75
Florida	5,250	5,210	335,000	64.30	8,180	8,160	602,000	73.77
Iowa	5,130	5,140	214,000	41.63	(1)	(1)	(1)	(1)
Kansas	660	660	48,000	72.73	750	750	50,000	66.67
Ohio	9,090	9,090	636,000	69.97	26,080	26,070	1,420,000	54.47
Pennsylvania	11,990	11,950	775,000	64.85	11,640	11,860	781,000	65.85
Tennessee	1,900	2,930	332,000	113.31	5,900	5,900	(2)	(2)
Texas	35,690	35,690	2,313,000	64.81	41,610	41,610	1,960,000	47.10
Other Eastern States [3]	192,350	192,410	7,193,000	37.38	213,640	213,770	7,960,000	[4] 36.24
Other Western States [5]	50,790	50,790	1,979,000	38.96	59,550	59,540	2,196,000	36.88
Total	342,500	343,570	[6] 15,391,000	44.80	394,300	394,340	16,403,000	41.60

[1] Included with "Other Western States."

[2] Included with "Other Eastern States."

[3] Includes Georgia, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Tennessee (1966 value), Virginia, and Wisconsin.

[4] Based on quantity of 219,670 tons (213,700 tons "Other Eastern States" plus 5,900 tons from Tennessee.)

[5] Includes Arizona, Colorado, Idaho, Iowa (1966), Louisiana, Minnesota, Missouri, Nebraska, Oregon and Utah.

[6] Data do not add to total due to rounding.

Phosphate Rock

Table 1.—Salient phosphate rock statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production	57,353	63,556	68,990	74,473	84,305	112,509
Marketable production	18,099	21,708	22,238	25,715	29,436	39,050
Value	$105,543	$134,304	$139,861	$161,067	$192,738	$261,121
Average per ton	$5.83	$6.19	$6.29	$6.26	$6.55	$6.69
Sold or used by producers	18,023	21,347	22,243	24,731	29,039	36,452
Value	$105,035	$134,222	$140,642	$156,738	$188,590	$245,230
Average per ton	$5.83	$6.29	$6.32	$6.34	$6.49	$6.73
Exports	3,733	4,406	5,093	6,374	[r] 7,323	9,248
P_2O_5 content	1,203	1,421	1,658	2,055	[r] 2,313	2,803
Value	$22,430	$27,567	$31,881	$39,717	[r] $51,109	$65,952
Average per ton	$6.01	$6.26	$6.26	$6.23	[r] $6.98	$7.13
Imports for consumption	139	150	180	175	148	178
Value	$3,370	$3,551	$3,651	$3,329	$2,980	$4,256
Average per ton	$24.24	$23.67	$20.28	$19.02	$20.14	$23.91
Consumption, apparent [1]	14,429	17,091	17,330	18,532	[r] 21,864	27,382
World: Production	42,896	62,300	66,140	78,050	85,700	98,440

[r] Revised.

[1] Measured by sold or used plus imports minus exports.

Table 2.—Production of phosphate rock in the United States

(Thousand short tons and thousand dollars)

State	Mine production		Mine production used directly		Washer production		Marketable production		
	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content	Value
1965:									
Florida [1]	[r] 72,515	11,587	33	7	21,530	7,024	21,563	7,031	$141,258
Tennessee	5,255	1,098	1,061	263	1,892	505	2,953	768	22,296
Western States [2]	[r] 6,535	[r] 1,635	3,276	833	1,644	500	[r] 4,920	[r] 1,333	29,184
Total	[r] 84,305	[r] 14,320	4,370	1,103	25,066	8,029	[r] 29,436	[r] 9,132	192,738
1966:									
Florida [1]	99,760	15,452	44	9	29,783	9,612	29,827	9,621	195,102
Tennessee	5,619	1,186	662	158	2,463	656	3,125	814	23,886
Western States [2]	7,130	1,768	2,801	715	3,297	962	6,098	1,677	42,133
Total	112,509	18,406	3,507	882	35,543	11,230	39,050	12,112	261,121

[r] Revised.

[1] Includes North Carolina.

[2] Includes Arkansas, Idaho, Montana, Utah, and Wyoming.

Table 3.—Florida phosphate rock sold or used by producers, by kinds

(Thousand short tons and thousand dollars)

Year	Hard rock				Soft rock				Land pebble				Total			
			Value				Value				Value				Value	
	Rock	P_2O_5 content	Total	Average per ton	Rock	P_2O_5 content	Total	Average per ton	Rock	P_2O_5 content	Total	Average per ton	Rock	P_2O_5 content	Total	Average per ton
1957–61 (average)	85	30	$656	$7.72	55	11	$385	$7.00	12,853	4,238	$74,849	$5.82	12,993	4,279	$75,890	$5.84
1962	78	28	659	8.45	37	7	275	7.43	15,259	4,995	93,669	6.14	15,374	5,030	94,603	6.15
1963	85	30	723	8.51	37	8	269	7.27	16,102	5,289	100,749	6.26	16,224	5,327	101,741	6.27
1964	86	30	747	8.69	31	6	225	7.26	18,203	5,971	115,513	6.35	18,320	6,007	116,485	6.36
1965	77	27	684	8.88	31	6	221	7.13	21,388	6,949	138,744	6.49	21,496	6,982	139,649	6.50
1966	49	17	437	8.92	45	9	293	6.51	[1] 28,043	9,077	184,075	6.56	[1] 28,137	9,103	184,805	6.57

[1] Includes North Carolina.

Table 4.—Tennessee phosphate rock sold or used by producers

(Thousand short tons and thousand dollars)

Year	Rock	P_2O_5 content	Value	
			Total	Average per ton
1957–61 (average)	2,172	563	$14,540	$6.69
1962	2,773	732	20,173	7.27
1963	2,682	700	18,303	6.82
1964	2,753	722	19,074	6.93
1965	2,969	772	22,385	7.54
1966	3,076	799	23,497	7.64

Table 5.—Western States phosphate rock sold or used by producers

(Thousand short tons and thousand dollars)

Year	Idaho				Montana [1]			
			Value				Value	
	Rock	P_2O_5 content	Total	Average per ton	Rock	P_2O_5 content	Total	Average per ton
1957–61 (average)	1,815	470	$7,753	$4.27	1,043	309	$6,852	$6.57
1962	1,953	497	10,164	5.20	1,247	379	9,282	7.44
1963	1,948	484	10,015	5.14	1,389	419	10,583	7.62
1964	2,200	567	9,802	4.46	1,458	440	11,377	7.80
1965	W	W	W	W	4,574	1,261	26,556	5.81
1966	W	W	W	W	5,239	1,456	36,928	7.05

W Withheld to avoid disclosing individual company confidential data.

[1] Includes Arkansas (1963–66), Utah (1961–66), Wyoming (1965–66), and Idaho (1965–66).

Table 6.—Phosphate rock sold or used by producers in the United States, by grades and States

(Thousand short tons)

Year and grade	Florida [1]		Tennessee		Western States		Total United States	
	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content
1965:								
Below 60	32	6	2,860	738	2,435	592	5,327	1,336
60–66	2,081	610	---	---	[r] 341	99	[r] 2,422	709
66–70	7,069	2,189	45	14	1,798	570	8,912	2,773
70–72	2,904	936	64	20	---	---	2,968	956
72–74	3,962	1,336	---	---	---	---	3,962	1,336
Plus 74	5,448	1,905	---	---	---	---	5,448	1,905
Total	21,496	6,982	2,969	772	[r] 4,574	1,261	[r] 29,039	9,015
1966:								
Below 60	78	18	2,816	724	2,581	634	5,475	1,376
60–66	807	236	194	55	499	145	1,500	436
66–70	13,944	4,343	66	20	2,018	631	16,028	4,994
70–72	2,004	649	---	---	---	---	2,004	649
72–74	6,800	2,293	---	---	141	46	6,941	2,339
Plus 74	4,504	1,564	---	---	---	---	4,504	1,564
Total	28,137	9,103	3,076	799	5,239	1,456	36,452	11,358

[r] Revised.

[1] Includes North Carolina in 1966.

Table 7.—Phosphate rock sold or used by producers in the United States by uses and States

(Thousand short tons and thousand dollars)

Uses	Florida [1]		Tennessee		Western States		Total United States	
	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content	Rock	P_2O_5 content
1965:								
Domestic:								
Agricultural	14,257	4,682	99	31	[r] 1,067	[r] 341	[r] 15,423	[r] 5,054
Industrial	838	272	2,870	741	[r] 2,585	[r] 635	[r] 6,293	[r] 1,648
Total	15,095	4,954	2,969	772	[r] 3,652	[r] 976	[r] 21,716	[r] 6,702
Exports	6,401	2,028	---	---	[r] 922	[r] 285	[r] 7,323	[r] 2,313
Grand total	21,496	6,982	2,969	772	[r] 4,574	[r] 1,261	[r] 29,039	[r] 9,015
1966:								
Domestic:								
Agricultural	19,297	6,416	W	W	1,398	441	W	W
Industrial	709	224	W	W	2,724	675	W	W
Total	20,006	6,640	3,076	799	4,122	1,116	27,204	8,555
Exports	8,131	2,463	---	---	1,117	340	9,248	2,803
Grand total	28,137	9,103	3,076	799	5,239	1,456	36,452	11,358

[r] Revised.

W Withheld to avoid disclosing individual company confidential data.

[1] Includes North Carolina in 1966.

Table 8.—Phosphate rock sold or used by producers in the United States by uses

(Thousand short tons and thousand dollars)

Use	1965			1966		
	Rock	P_2O_5 content	Value	Rock	P_2O_5 content	Value
Domestic:						
Phosphoric acid (wet process)	4,598	1,492	$30,576	7,734	2,491	$53,565
Triplesuperphosphate	4,666	1,539	30,995	7,524	2,395	46,145
Electric furnace phosphorus	6,293	1,648	37,950	6,443	1,678	45,211
Ordinary superphosphate	5,503	1,816	35,056	4,877	1,793	30,018
Nitraphosphate Direct application to the soil Stock and poultry feed Other fertilizers	656	207	2,904	626	198	4,339
Total	21,716	6,702	137,481	27,204	8,555	179,278
Exports	7,323	2,313	51,109	9,248	2,803	65,952
Grand total	29,039	9,015	188,590	36,452	11,358	245,230

Table 9.—Producer stocks of marketable phosphate rock, December 31

(Thousand short tons)

Source	1965		1966	
	Rock	P_2O_5 content	Rock	P_2O_5 content
Florida	5,189	1,691	[1] 6,885	[1] 2,210
North Carolina	6	2	(2)	(2)
Tennessee	75	22	126	36
Western States	[r] 1,259	[r] 315	3,592	909
Total	[r] 6,529	[r] 2,030	10,603	3,155

[r] Revised.
[1] Includes North Carolina.
[2] Included with Florida.

Table 10.—Prices of Florida land pebble, unground, washed, and dried phosphate rock, in bulk, carlots, at mine, in 1966

(Per short ton)

Grade (percent B.P.L.)	Jan. 3	Dec. 26
66 to 68	$6.25	$6.50
68 to 70	7.23	7.50
70 to 72	7.90	8.15
74 to 75	8.96	9.20
76 to 77	9.95	10.20

Source: Oil, Paint and Drug Reporter.

Table 11.—U.S. exports of phosphate rock, by grades and countries

(Thousand short tons and thousand dollars)

Grade and destination	1965		1966	
	Quantity	Value	Quantity	Value
Florida phosphate rock:				
North America:				
Canada	699	$7,228	1,065	$11,771
Costa Rica	4	33	---	---
El Salvador	12	95	7	60
Jamaica	1	14	1	22
Mexico	267	1,934	326	2,577
Netherlands Antilles	6	55	2	20
Other	2	9	(1)	3
South America:				
Brazil	150	1,426	114	1,068
Colombia	17	146	26	252
Peru	19	161	---	---
Uruguay	13	117	34	297
Venezuela	22	202	(1)	2
Other	(1)	2	---	---
Europe:				
Austria	---	---	31	237
Belgium-Luxembourg	---	---	8	66
Denmark	27	247	21	170
France	54	579	134	1,475
Germany, West	978	7,039	1,162	8,291
Italy	919	6,732	1,165	8,530
Netherlands	---	---	167	1,284
Norway	11	98	6	54
Rumania	---	---	50	383
Spain	130	1,114	231	2,090
Sweden	79	719	37	371
Switzerland	3	32	---	---
United Kingdom	276	2,219	344	2,888
Yugoslavia	---	---	16	125
Africa	---	---	14	131
Asia:				
India	55	485	30	278
Japan	1,823	14,797	1,845	15,643
Korea, South	8	63	11	89
Malaysia	20	488	22	402
Philippines	78	690	60	521
Viet-Nam, South	22	569	32	611
Oceania:				
Australia	762	7,173	843	7,795
New Zealand	155	1,497	309	3,015
Total	6,612	55,963	8,113	70,521
Other phosphate rock: [2]				
North America:				
Canada	805	9,598	1,094	14,404
Mexico	1	39	7	96
Other	(1)	13	(1)	27
South America:				
Brazil	(1)	15	4	62
Other	(1)	63	(1)	22
Europe:				
Belgium-Luxembourg	1	43	1	38
France	6	49	(1)	3
Germany, West	---	---	5	32
United Kingdom	11	101	(1)	7
Other	(1)	32	(1)	8
Africa	(1)	5	1	12
Asia:				
Japan	14	147	4	34
Viet-Nam, South	24	482	26	564
Other	(1)	8	(1)	5
Oceania	(1)	(1)	---	---
Total	862	10,595	1,142	15,314
Grand total	7,474	66,558	9,255	85,835

[1] Less than ½ unit.

[2] Includes colloidal matrix, sintered matrix, soft phosphate rock, and Tennessee, Idaho, and Montana rock.

Table 12.—U.S. exports of superphosphates (acid phosphates), by countries

(Thousand short tons and thousand dollars)

Destination	1965		1966	
	Quantity	Value	Quantity	Value
North America:				
Canada	138	$4,970	132	$5,267
Dominican Republic	6	303	3	167
El Salvador	7	340	(1)	1
Jamaica	1	71	2	95
Mexico	1	59	(1)	13
Nicaragua	4	191	2	87
Other	2	168	2	154
South America:				
Argentina	2	118	---	---
Brazil	54	2,701	48	2,372
Chile	77	4,585	192	9,927
Colombia	46	2,631	48	2,845
Ecuador	3	147	3	130
Venezuela	---	---	5	269
Other	1	73	(1)	8
Europe:				
Belgium-Luxembourg	2	70	---	---
France	14	599	3	151
Italy	2	102	---	---
Netherlands	42	2,420	13	576
Other	(1)	7	(1)	9
Africa	(1)	11	(1)	5
Asia:				
India	(1)	(1)	1	116
Japan	9	444	3	152
Korea, South	212	11,642	203	10,246
Nansei and Nanpo Islands	---	---	4	183
Pakistan	8	483	85	7,221
Other	(1)	10	(1)	3
Oceania:				
Australia	---	---	1	38
New Zealand	(1)	2	13	670
Total	631	32,147	763	40,705

[1] Less than ½ unit.

Table 13.—U.S. imports for consumption of phosphate rock and phosphatic fertilizers

(Thousand short tons and thousand dollars)

Fertilizer	1965		1966	
	Quantity	Value	Quantity	Value
Phosphates, crude and apatite	148	$2,980	178	$4,256
Phosphatic fertilizers and fertilizer materials	58	3,139	67	3,740
Ammonium phosphates, used as fertilizers	174	12,421	179	13,756
Bone ash, bone dust, bone meal and bones, crude, steamed, or ground	7	370	7	499
Manures, including guano	---	---	(1)	1
Basic slag	(1)	2	(1)	4
Dicalcium phosphate	3	177	22	1,109

[1] Less than ½ unit.

Table 14.—World production of phosphate rock by countries [1]

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
United States	21,708	22,238	25,715	[r] 29,436	39,050
Mexico	[e] 33	[e] 33	31	[e] 31	[e] 31
Netherlands Antilles [3]	145	141	132	[r] 127	[e] 162
South America:					
Argentina (guano)	(4)	1	(4)	(4)	(4)
Brazil:					
Apatite	342	237	215	[r] 211	[e] 220
Phosphate rock	282	70	56	[r] 96	[e] 88
Chile:					
Apatite	14	15	14	15	---
Guano	18	24	17	24	17
Peru (guano)	227	[r] 206	[r] 226	[r] 187	61
Venezuela	---	---	---	[e] 7	NA
Europe:					
Belgium	14	15	24	[e] 24	[e] 24
France	74	56	48	[r] 38	[e] 28
Poland	62	71	98	[r] 103	[e] 103
U.S.S.R.:					
Apatite [e]	[r] 11,260	[r] 12,470	[r] 17,570	[r] 20,720	22,050
Sedimentary rock [e]	[r] 8,820	[r] 9,370	[r] 9,700	[r] 9,920	10,140
Africa:					
Algeria	430	384	80	95	[e] 88
Morocco	8,997	9,423	11,181	10,830	10,405
Rhodesia, Southern	---	---	2	[e] 4	NA
Senegal:					
Aluminum phosphate	156	139	133	149	160
Calcium phosphate	548	518	746	956	1,091
Seychelles Islands (guano) [3]	6	8	4	7	[e] 7
South Africa, Republic of	339	501	638	672	1,172
South-West Africa (guano)	1	2	(4)	2	2
Togo	211	567	829	[r] 1,065	1,228
Tunisia	2,312	2,613	3,032	3,351	3,527
Uganda (apatite)	1	8	11	18	17
United Arab Republic (Egypt)	663	[r] 675	676	654	728
Asia:					
China, mainland [e]	700	800	900	1,000	1,100
Christmas Island (Indian Ocean)	583	730	868	828	1,065
India (apatite)	32	14	4	4	18
Indonesia	7	1	4	[e] 4	[e] 11
Israel	231	331	265	428	[e] 441
Jordan	751	677	666	913	1,142
Korea, North (apatite) [e]	220	220	220	220	220
Philippines:					
Guano	(4)	2	1	5	1
Phosphate rock	4	1	3	(4)	(4)
Viet-Nam, North:					
Apatite	747	1,020	[e] 1,100	[e] 1,100	[e] 1,100
Phosphate rock	37	55	[e] 55	[e] 55	[e] 55
Oceania:					
Australia	5	6	6	[r] 5	[e] 5
Makatea Island (French Oceania)	350	370	428	[r] 340	[3] 221
Nauru Island [3]	1,698	1,738	2,038	1,631	2,245
Ocean Island [3]	287	399	362	[r] 402	419
World total [e]	[r] 62,300	[r] 66,140	[r] 78,050	[r] 85,700	98,440

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] A negligible amount of phosphate rock is produced in Cambodia, Jamaica, and Tanzania.

[2] Compiled mostly from data available May 1967.

[3] Exports.

[4] Less than ½ unit.

Table 15.—Selected African countries: Exports of phosphate rock in 1966, by countries

(Short tons)

Destination	Algeria	Morocco	Senegal	Togo	Tunisia	Total
North America: Canada	-----	-----	11,343	-----	-----	11,343
South America: Uruguay	-----	-----	-----	-----	49,604	49,604
Europe:						
Belgium	-----	1,054,805	-----	78,597	-----	1,133,402
Czechoslovakia	-----	-----	-----	-----	60,517	60,517
Denmark	-----	-----	-----	-----	23,149	23,149
France	18,893	1,900,061	64,101	366,446	666,129	3,015,630
Germany, West	4,409	445,004	331,390	80,106	182,874	1,043,783
Greece	-----	-----	73,082	-----	293,105	366,187
Italy	-----	481,712	5,512	44,620	345,576	877,420
Netherlands	-----	547,520	-----	235,789	10,251	793,560
Norway	-----	-----	-----	6,720	-----	6,720
Poland	-----	402,345	-----	-----	153,773	556,118
Spain	3,947	881,522	-----	-----	68,234	953,703
Sweden	-----	-----	-----	-----	43,762	43,762
Switzerland	-----	-----	-----	-----	1,323	1,323
United Kingdom	-----	898,498	213,330	-----	48,612	1,160,440
Yugoslavia	-----	-----	-----	-----	282,744	282,744
Africa: South Africa, Republic of	-----	-----	217,034	-----	-----	217,034
Asia:						
China	-----	-----	-----	-----	86,972	86,972
India	11,353	-----	-----	55,758	298,948	366,059
Japan	-----	-----	212,471	120,361	13,338	346,170
Turkey	2,811	-----	-----	-----	-----	2,811
Oceania: Australia	-----	-----	56,452	236,613	-----	293,065
Other countries	-----	3,456,750	-----	18	441	3,457,209
Total	41,413	10,068,217	1,184,715	1,225,028	2,629,352	15,148,725

Potash

Table 1.—Salient potash statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production of potassium salts, marketable quantity	4,123	4,167	4,871	4,954	5,401	5,701
Approximate K_2O equivalent quantity	2,433	2,452	2,864	2,897	3,140	3,320
Value	$86,829	$94,859	$110,164	$114,095	$129,767	$122,210
Sales of potassium salts by producers quantity	4,082	4,615	4,587	5,201	5,027	5,377
Approximate K_2O equivalent quantity	2,408	2,722	2,709	3,045	2,931	3,133
Value at plant	$85,783	$105,608	$103,828	$120,284	$121,161	$116,340
Average value per ton	$21.01	$22.89	$22.64	$23.13	$24.10	$21.64
Imports for consumption of potash materials quantity	403	617	1,041	1,254	1,867	2,539
Approximate K_2O equivalent quantity	221	341	594	737	1,108	1,487
Value	$14,624	$21,765	$31,137	$35,797	$52,675	$71,943
Exports of potash materials quantity	636	859	722	1,048	1,099	1,053
Approximate K_2O equivalent quantity	358	506	425	618	648	621
Value	$22,536	$30,731	$25,519	$37,586	$42,494	$38,159
Apparent consumption of potassium salts [1] quantity	3,849	4,373	4,906	5,407	5,795	6,863
Approximate K_2O equivalent quantity	2,271	2,557	2,878	3,164	3,391	3,999
World: Production, marketable:						
Approximate K_2O equivalent quantity	9,500	11,200	12,500	13,500	15,100	16,200

[1] Measured by sold or used plus imports minus exports.

Table 2.—Production and sales of marketable potassium salts in the United States, in 1966, by product

(Thousand short tons and thousand dollars)

Product	Production			Sales		
	Gross weight	K_2O equivalent	Value [1]	Gross weight	K_2O equivalent	Value
Muriate of potash, 60 per cent K_2O minimum:						
Standard	2,596	1,592	$51,384	2,191	1,345	$43,283
Coarse	1,475	900	31,657	1,566	954	33,823
Granular	737	446	16,536	781	473	17,852
Total	4,808	2,938	99,577	4,538	2,772	94,958
Other potassium salts [2] [3]	893	382	22,633	839	361	21,382
Grand total	5,701	3,320	122,210	5,377	3,133	116,340

[1] Derived from reported value of "Sold or used."

[2] Figures for refined muriate and manure salts are included with potassium sulfate and potassium-magnesium sulfate to avoid disclosing individual company confidential data.

[3] Includes sulfate manufactured from captive production of muriate.

Table 3.—Production and sales of potassium salts in New Mexico

(Thousand short tons and thousand dollars)

Year	Crude salts[1]		Marketable potassium salts					
	Mine production		Production			Sales		
	Gross weight	K_2O equivalent	Gross weight	K_2O equivalent	Value[2]	Gross weight	K_2O equivalent	Value
1957–61 (average)	13,955	2,620	3,802	2,242	$79,889	3,760	2,217	$78,876
1962	14,115	2,619	3,758	2,208	85,124	4,206	2,476	95,851
1963	16,414	3,083	4,504	2,643	100,458	4,213	2,484	94,925
1964	17,356	3,122	4,585	2,675	104,861	4,815	2,814	110,772
1965	18,557	3,363	4,919	2,848	117,771	4,607	2,677	110,424
1966	20,105	3,528	5,096	2,953	108,653	4,872	2,827	104,668

[1] Sylvite and langbeinite.

[2] Derived from reported value of "Sold or used."

Table 4.—Deliveries of potash salts in 1966, by States of destination

(Short tons K_2O equivalent)

Destination	Agricultural potash	Chemical potash	Destination	Agricultural potash	Chemical potash
Alabama	103,710	25,896	Montana	815	---
Alaska	170	---	Nebraska	18,556	120
Arizona	813	9	Nevada	---	1,340
Arkansas	91,177	484	New Hampshire	549	64
California	43,009	13,310	New Jersey	34,298	2,486
Colorado	3,537	17	New Mexico	14,337	1,069
Connecticut	3,705	260	New York	50,878	89,552
Delaware	12,735	5,408	North Carolina	129,517	338
District of Columbia	647	---	North Dakota	6,691	---
Florida	189,018	1,255	Ohio	252,733	7,354
Georgia	200,518	1,552	Oklahoma	22,572	670
Hawaii	24,552	---	Oregon	11,967	765
Idaho	4,239	---	Pennsylvania	51,151	4,650
Illinois	520,855	24,047	Rhode Island	2,023	482
Indiana	363,407	4,812	South Carolina	79,488	21
Iowa	255,965	346	South Dakota	4,169	---
Kansas	23,352	1,035	Tennessee	91,632	---
Kentucky	66,507	10,717	Texas	172,553	7,729
Louisiana	34,017	894	Utah	361	84
Maine	18,057	66	Vermont	5,204	13
Maryland	96,523	1,800	Virginia	130,618	560
Massachusetts	11,506	628	Washington	16,871	2,136
Michigan	111,107	1,984	West Virginia	2,225	15,889
Minnesota	160,740	201	Wisconsin	156,547	100
Mississippi	34,372	16	Wyoming	183	---
Missouri	159,459	1,425			
			Total	3,789,635	231,584

Source: The American Potash Institute Inc., Washington, D.C.

Table 5.—Stocks of potassium salts in the United States

(Thousand short tons)

Year	Number of producers	Stocks, Dec. 31		Year	Number of producers	Stocks, Dec. 31	
		Gross weight	K_2O equivalent			Gross weight	K_2O equivalent
1957–61 (average)	11	695	416	1964	10	519	295
1962	11	475	286	1965	12	892	504
1963	10	762	478	1966	12	1,215	690

Table 6.—Bulk prices for New Mexico potash [1]

(Cents per unit K_2O)

Product	1966		1967	
	June–Sept.	Oct.–Dec.	January	Feb.–May
Muriate, 60 percent K_2O minimum:				
Standard	34	39	39	42
Coarse	38	41	41	44
Granular	41	44	44	47
Sulfate, of potash, standard	70	75	75	80
Manure salts, 20 percent K_2O minimum	17.65	17.65	17.65	17.65

[1] Carlots, f.o.b. Carlsbad on contracts made prior to July 1, 1966. Not quoted by all producers.

Table 7.—Bulk prices for California potash [1]

(Cents per unit K_2O)

Product	1966		1967	
	June–Sept.	Oct.–Dec.	January	Feb.–May
Muriate, 60 percent K_2O minimum:				
Standard	42	46	46	49
Coarse	46	48	48	51
Sulfate, 52 percent K_2O minimum	80	85	85	90

[1] Quoted by American Potash & Chemical Corp., carlots, f.o.b. Trona, Calif., on contracts made prior to July 1, 1965.

Table 8.—U.S. exports of potash materials, by countries

Destination	Fertilizer				Chemical			
	1965		1966		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
North America:								
Canada	45,005	$1,716	56,166	$2,132	7,217	$1,875	5,723	$1,293
Costa Rica	8,716	321	9,658	280	10	18	4	3
Dominican Republic	5,064	209	3,687	157	4	2	24	5
El Salvador	3,859	107	7,510	233	6	17	7	10
Leeward and Windward Islands	1,002	32	3,880	126	---	---	1	1
Mexico	43,933	1,160	54,648	1,559	1,370	318	1,362	277
Netherlands Antilles	13,210	374	8,265	266	6	4	3	1
Other	10,514	531	5,374	226	116	32	192	65
Total	131,303	4,450	149,188	4,979	8,729	2,266	7,316	1,655
South America:								
Argentina	---	---	1,461	48	709	143	262	71
Brazil	52,448	1,968	74,188	2,272	12,638	860	2,143	473
Chile	17,184	558	15,909	415	116	33	70	20
Colombia	29,265	921	40,541	1,552	82	26	185	45
Peru	412	22	285	12	49	27	44	27
Venezuela	18,861	672	52	3	270	108	318	116
Other	2,599	100	3,631	144	128	18	53	44
Total	120,769	4,241	136,067	4,446	13,992	1,215	3,075	796
Europe:								
Belgium-Luxembourg	---	---	339	22	360	92	567	138
Finland	4,409	130	8,761	260	20	7	12	7
Germany, West	741	32	4,532	200	1,794	523	2,216	599
Ireland	---	---	6	(1)	5	7	13	20
Italy	11,672	353	124	4	418	100	1,595	474
Netherlands	391	44	21,610	783	860	291	544	165
Sweden	15,828	472	4,940	154	125	38	25	16
United Kingdom	1,068	54	1,248	61	817	225	1,057	252
Other	2,795	99	2,635	101	1,773	544	1,188	279
Total	36,904	1,184	44,195	1,585	6,172	1,827	7,217	1,950
Africa:								
South Africa, Republic of	41,627	1,199	20,097	584	137	47	100	27
Other	590	26	70	3	181	44	24	7
Total	42,217	1,225	20,167	587	318	91	124	34
Asia:								
India	2,685	144	---	---	7	3	134	18
Japan	393,015	12,325	380,828	11,966	18	13	13	16
Korea, South	143,704	4,358	102,966	3,091	12,335	2,755	5,519	267
Pakistan	8,118	315	13,570	520	(1)	1	4	4
Philippines	4,445	144	2,835	107	879	65	58	32
Taiwan	43,330	1,536	---	---	1	1	38	14
Turkey	70	3	---	---	474	74	260	51
Viet-Nam	2,322	109	10,124	465	31	17	2,146	169
Other	42	2	440	16	37	18	346	52
Total	597,731	18,936	510,763	16,165	13,782	2,947	8,518	623
Oceania:								
Australia	48,751	1,412	127,965	4,007	3,159	300	2,164	209
New Zealand	74,630	2,361	36,638	1,097	131	37	61	21
Other	---	---	13	1	6	2	14	4
Total	123,381	3,773	164,616	5,105	3,296	339	2,239	234
Grand total	1,052,305	33,809	1,024,996	32,867	46,289	8,685	28,489	5,292

[1] Less than ½ unit.

Table 9.—U.S. imports for consumption of potash materials

Material	Approximate equivalent as potash (K_2O) (percent)	1965				1966			
		Short tons	Approximate equivalent as potash (K_2O)		Value [1] (thousands)	Short tons	Approximate equivalent as potash (K_2O)		Value [1] (thousands)
			Short tons	Percent of total			Short tons	Percent of total	
Used chiefly as fertilizers:									
Muriate (chloride) [2]	60	1,782,668	1,069,601	96.6	$45,834	2,391,240	1,434,744	96.5	$61,387
Potassium nitrate, crude	40	3,545	1,418	.1	159	26,730	10,692	.7	884
Potassium sodium nitrate mixtures, crude	14	7,409	1,037	.1	298	40,100	5,614	.4	1,629
Potassium sulfate, crude [2]	50	62,428	31,214	2.8	2,236	56,728	28,364	1.9	2,129
Other potash fertilizer materials	6	788	47	.0	27	9,890	593	.0	380
Total	---	1,856,838	1,103,317	99.6	48,554	2,524,688	1,480,007	99.5	66,409
Used chiefly in chemical industries:									
Bicarbonate	46	355	163	0.4	32	1,118	514	0.5	126
Bitartrate: Cream of tartar	25	1,226	307		553	1,277	319		594
Carbonate	61	62	39		9	1,433	874		215
Caustic	80	972	778		194	2,178	1,742		402
Chlorate and perchlorate	36	1,105	398		239	1,111	400		235
Cyanide	70	1,107	775		506	1,165	816		542
Ferricyanide	42	647	272		405	647	272		409
Ferrocyanide	44	1,153	507		465	2,126	935		804
Nitrate	50	1,357	679		155	941	471		99
Rochelle salts	22	230	51		85	338	74		126
All other	31	1,698	526		1,478	2,090	648		1,982
Total	---	9,912	4,495	0.4	4,121	14,424	7,065	0.5	5,534
Grand total	---	1,866,750	1,107,812	100.0	52,675	2,539,112	1,487,372	100.0	71,943

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[1] Adjusted by the Bureau of Mines.

[2] Some information furnished by The American Potash Institute, Inc., Washington, D.C.

Table 10.—U.S. imports for consumption of potash materials, by countries

(Short tons)

Year and country	Bitartrate, cream of tartar	Caustic (hydroxide)	Chlorate and perchlorate	Cyanide	Muriate (chloride)[1]	Potassium nitrate, crude	Potassium sodium nitrate mixtures, crude	Potassium nitrate (saltpeter), refined	Potassium sulfate,[1] crude	All others	Total	
											Quantity	Value[2] (thousands)
1965:												
Belgium-Luxembourg	----	----	----	----	----	----	----	----	----	595	595	$338
Canada	----	30	----	6	1,508,292	72	----	----	22	194	1,508,616	37,169
Chile	----	----	----	----	----	3,307	7,409	----	----	----	10,716	437
France	3	110	26	122	113,182	66	----	----	37,338	500	151,347	4,971
Germany:												
East	----	----	----	----	----	----	----	143	----	83	226	57
West	----	576	----	496	122,905	100	----	688	20,218	891	145,824	5,633
Italy	606	----	----	----	----	----	----	352	4,850	503	6,311	552
Netherlands	----	4	----	28	----	----	----	----	----	1,326	1,358	450
Spain	317	----	----	----	43,239	----	----	152	----	105	43,813	1,462
Sweden	----	244	675	----	----	----	----	----	----	----	919	244
United Kingdom	----	----	----	196	----	----	----	----	----	103	299	135
Other countries	300	8	404	259	50	----	----	72	----	633	1,726	1,227
Total	1,226	972	1,105	1,107	1,782,668	3,545	7,409	1,357	62,428	4,933	1,866,750	52,675
1966:												
Belgium-Luxembourg	----	6	----	----	16,598	----	----	----	2,315	693	19,612	996
Canada	----	----	----	----	2,026,478	5,355	99	----	122	7,377	2,039,431	51,808
Chile	----	----	----	----	1,102	21,176	40,001	----	----	----	62,279	2,432
France	3	386	----	90	124,960	20	----	----	18,932	1,172	145,563	4,652
Germany:												
East	----	----	----	----	----	----	----	----	----	77	77	39
West	----	1,486	45	469	182,187	179	----	438	20,854	2,420	208,078	6,895
Italy	817	----	----	----	----	----	----	466	11,143	2,615	15,041	1,092
Netherlands	----	7	----	192	----	----	----	----	----	2,160	2,359	798
Spain	382	----	----	----	24,114	----	----	87	3,362	172	28,067	1,063
Sweden	----	290	688	----	----	----	----	----	----	----	978	268
United Kingdom	----	----	----	167	----	----	----	----	----	167	334	149
Other countries	75	3	378	247	15,801	----	----	----	----	789	17,293	1,751
Total	1,277	2,178	1,111	1,165	2,391,240	26,730	40,100	941	56,728	17,642	2,539,112	71,943

[1] Some information furnished by The American Potash Institute, Inc.
[2] Adjusted by Bureau of Mines.

Table 11.—World production of marketable potash, by countries

(Short tons, K_2O equivalent)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada	[e] 150,000	626,860	858,351	[r] 1,491,301	2,045,000
United States	2,452,921	[r] 2,864,000	2,897,000	3,140,000	3,320,000
South America: Chile (nitrate)	19,541	[e] 20,540	14,881	[e] 15,650	[e] 16,200
Europe:					
France	1,897,958	1,897,661	[r] 1,991,390	2,071,240	[e] 2,105,410
Germany:					
East	1,931,247	2,034,000	2,046,990	[r] 2,123,049	[e] 2,204,600
West	2,138,637	2,147,300	2,426,184	[r] 2,628,722	[e] 2,535,300
Italy	170,142	207,565	226,866	[r] 266,298	[e] 288,360
Spain	259,156	286,876	322,427	[r] 399,582	[e] 488,100
U.S.S.R. [e]	[r] 2,100,000	[r] 2,260,000	[r] 2,425,000	[r] 2,590,000	2,800,000
Asia: Israel [2]	100,200	124,560	281,640	[e] 341,700	[e] 410,100
World total [e]	[r] 11,200,000	[r] 12,500,000	[r] 13,500,000	[r] 15,100,000	16,200,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available April 1967.

[2] Year ended March 31 of year following that stated.

Table 12.—France, Spain and West Germany: Exports of potash by countries

(Short tons)

Destination	Exporting countries					
	France [1]		Spain		West Germany [2]	
	1965	1966	1965	1966	1965	1966
North America:						
Canada	6,553	13,254	-----	-----	16,346	10,688
Jamaica	2,313	2,452	-----	-----	5,799	728
United States	112,689	115,178	53,682	14,713	164,212	128,782
South America:						
Brazil	25,105	30,294	-----	-----	23,952	19,696
Chile	1,000	1,080	5,512	17,086	10,100	480
Colombia	4,310	3,307	-----	5,512	-----	3,691
Venezuela	2,627	-----	-----	-----	1,103	3,406
Europe:						
Austria	52,723	44,577	-----	-----	79,828	39,592
Belgium-Luxembourg	286,990	325,341	42,263	23,459	350,270	97,198
Czechoslovakia	882	2,597	-----	-----	6,283	-----
Denmark	28,081	27,076	2,094	-----	211,162	67,832
Finland	17,951	569	12,307	-----	54,503	30,585
France	-----	-----	5,765	20,657	9,336	3,414
Germany, West	56,227	88,900	-----	-----	-----	-----
Greece	4,193	3,741	-----	-----	10,761	5,346
Iceland	-----	-----	2,205	-----	6,614	2,976
Ireland	41,631	-----	13,079	19,281	50,023	18,627
Italy	92,060	76,060	42,307	78,545	41,050	16,991
Netherlands	137,901	96,979	17,113	27,150	235,206	102,546
Norway	9,556	29,240	82,448	89,417	29,723	13,761
Poland	967	24,523	20,338	67,065	210,915	121,435
Portugal	-----	93	33,713	19,594	-----	-----
Sweden	49,978	28,150	11,541	22,652	62,870	24,618
Switzerland	86,384	88,913	-----	-----	39,505	12,788
United Kingdom	252,586	182,533	72,130	63,570	211,897	80,947
Yugoslavia	9,992	149	-----	-----	6,338	-----
Africa:						
Algeria	-----	3,892	4,966	1,653	4,409	661
Congo, Republic of	-----	6,726	-----	-----	110	-----
Ivory Coast	-----	3,148	-----	-----	1,323	1,137
Reunion	4,333	890	-----	-----	-----	-----
Rhodesia, Southern	-----	9,146	2,500	-----	12,127	4,513
Senegal	3,693	4,354	-----	-----	1,759	2,293
South Africa, Republic of	22,937	27,576	8,499	15,247	65,822	25,215
Asia:						
Ceylon	17,492	15,769	-----	-----	40,304	22,842
India	31,412	43,392	-----	-----	28,054	26,929
Japan	45,280	37,429	-----	-----	99,263	69,710
Malaysia	13,945	11,676	-----	-----	17,844	7,086
Philippines	14,629	2,756	-----	-----	14,706	1,962
Taiwan	-----	-----	-----	-----	11,023	34,590
Oceania:						
Australia	7,209	4,281	-----	-----	10,787	2,724
New Zealand	668	-----	-----	-----	28,301	779
Other Countries	[r] 14,579	21,903	3,195	5,093	[r] 33,762	17,277
Total	1,458,876	1,327,944	435,657	490,694	2,207,390	1,023,790

[r] Revised.

[1] Data includes salts carbonate, chloride, and nitrate of potash.

[2] Data includes crude salts, chloride, sulfate, magnesium sulfate, and beet ash.

Pumice

Table 1.—Pumice sold or used by producers in the United States

(Thousand short tons and thousand dollars)

Year	Pumice and pumicite		Volcanic cinder		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	860	$3,284	1,290	$2,345	2,150	$5,629
1962	533	3,206	1,738	3,095	2,271	6,301
1963	1,050	3,321	1,568	3,257	2,618	6,578
1964	1,165	4,094	1,611	2,349	2,776	6,443
1965	483	r 2,442	r 2,888	r 4,108	r 3,371	r 6,550
1966	549	2,629	2,669	4,136	3,218	6,765

Revised.

Table 2.—Pumice [1] sold or used by producers in the United States

(Thousand short tons and thousand dollars)

State	1965		1966		State	1965		1966	
	Quantity	Value	Quantity	Value		Quantity	Value	Quantity	Value
Arizona	r 1,161	r $1,515	1,103	$1,674	New Mexico	264	915	245	787
California	676	1,744	580	1,763	Oregon	657	1,181	714	1,256
Colorado	56	134	46	104	Other States [2]	63	171	24	163
Hawaii	380	624	374	716					
Idaho	46	79	55	107	Total	r 3,371	r 6,550	3,218	6,765
Montana	-----	-----	22	5	American Samoa	-----	-----	17	22
Nevada	68	187	55	190					

r Revised.

[1] Includes pumicite and volcanic cinder.

[2] Kansas, Nebraska, Oklahoma, Texas, Utah, and Washington.

Table 3.—Pumice [1] sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Abrasive: Cleaning and scouring compounds	10	$201	10	$242
Concrete admixture and concrete aggregates	1,215	3,016	1,098	2,967
Railroad ballast	r 897	r 741	740	639
Road construction [2]	1,146	1,292	1,277	1,605
Other uses [3]	103	1,300	93	1,312
Total	r 3,371	r 6,550	3,218	6,765

r Revised.

[1] Includes pumicite and volcanic cinder.

[2] Includes surfacing, ice control, and maintenance.

[3] Includes abrasive uses (miscellaneous), absorbents, acoustics and plaster, fertilizer, filler, insecticides, landscaping, matches, paint, roofing aggregate, water filtration, and miscellaneous uses.

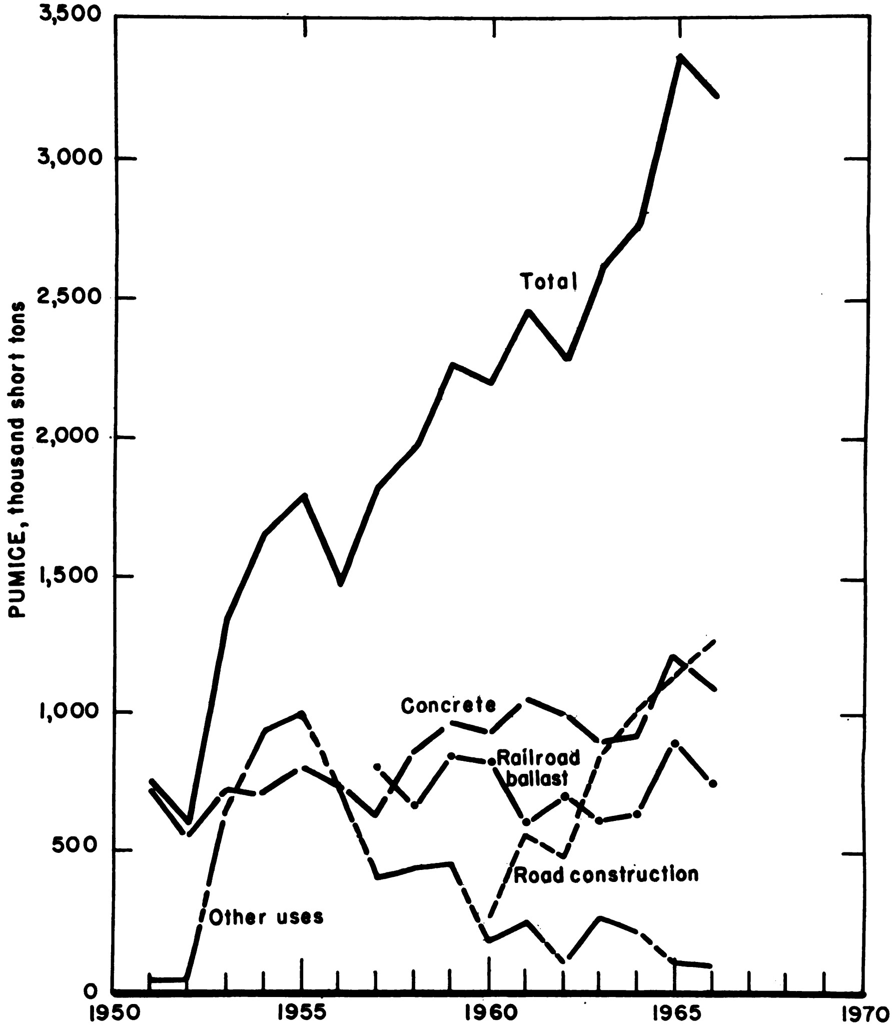

Figure 1.—Pumice sold or used by producers in the United States, by uses.

Table 4.—U.S. imports for consumption of pumice, by countries

Country	Crude or unmanufactured				Wholly or partly manufactured			
	1965		1966		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Italy	[r] 9,956	$99	9,202	$88	3,530	$127	4,310	$163
Other	-----	-----	191	3	1	(1)	-----	-----
Total	[r] 9,956	99	9,393	91	3,531	127	4,310	163

Country	Pumice [2]				Manufactured n.s.p.f.	
	1965		1966		1965	1966
	Short tons	Value (thousands)	Short tons	Value (thousands)	Value (thousands)	Value (thousands)
Greece	141,309	$306	137,456	$258	-----	-----
Italy	23,417	53	131,536	302	11	9
Other	12,511	23	36	(1)	16	16
Total	177,237	382	269,028	560	27	25

[r] Revised.

[1] Less than ½ unit.

[2] To be used in manufacturing concrete masonry products.

Table 5.—World production of pumice by countries [1]

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
Argentina [3]	[r] 12,916	[r] 13,467	[r] 4,383	7,156	8,900
Austria: Trass	30,696	23,349	25,223	22,516	23,238
Cape Verde Islands:					
Pozzolan	7,503	13,035	11,296	[r] 4,562	[e] 4,400
Chile: Pozzolan	120,315	142,002	155,885	156,094	160,291
France:					
Pumice	1,876	849	1,010	[r] 780	[e] 770
Pozzolan	521,751	601,488	645,547	[r] 782,136	[e] 772,000
Germany, West (marketable)	6,290,883	7,043,761	6,416,547	5,617,372	5,941,686
Greece:					
Pumice	87,938	[r] 56,743	[e] 88,000	[e] 220,000	[e] 331,000
Santorin earth	207,273	[r] 262,764	[e] 220,000	[e] 441,000	[e] 386,000
Iceland	[e] 7,200	13,779	11,023	[e] 11,000	[e] 11,000
Italy:					
Pumice	349,862	722,917	[r] 679,206	[r] 508,729	[e] 1,058,000
Pumicite	160,607	308,646	[r] 382,061	[e] 549,000	
Pozzolan	3,322,318	4,765,354	[r] 4,483,622	[r] 4,265,113	[e] 4,299,000
Kenya	1,243	1,245	1,585	1,145	874
New Zealand	36,425	18,599	22,980	120,807	20,204
Spain: Canary Islands	1,918	1,685	2,528	[e] 2,540	[e] 2,540
United Arab Republic (Egypt)	2,276	9,614	23,779	28,282	[e] 27,550
United States (sold or used by producers):					
Pumice and pumicite	[r] [4] 533,226	1,050,178	1,165,379	484,047	548,433
Volcanic cinder	[r] [4] 1,788,077	1,567,825	1,611,093	[r] 2,888,006	[5] 2,685,324
World total [e]	[r] 13,615,000	[r] 16,750,000	[r] 16,080,000	[r] 16,240,000	16,410,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Pumice is also produced in Japan, Mexico, and U.S.S.R. (sizeable quantity), but data on production are not available; no estimates are included in total except for Japan.

[2] Compiled mostly from data available July 1967.

[3] Includes volcanic ash and cinders, and pozzolan.

[4] American Samoa figures excluded from pumice and pumicite and included in volcanic cinders.

[5] Includes American Samoa.

Quartz Crystal

Table 1.—Salient electronic- and optical-grade quartz crystal statistics

	1957–61 (average)	1962	1963	1964	1965	1966
Imports of electronic- and optical-grade quartz crystal.....thousand pounds..	521	325	282	264	324	265
Value................thousands..	$579	$731	$447	$532	$913	$596
Consumption of raw electronic-grade quartz crystal.....thousand pounds..	199	291	325	344	315	363
Production, piezoelectric units, number................thousands..	7,330	11,787	13,614	17,920	17,832	27,463

Salt

Table 1.—Salient salt statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Sold or used by producers	24,420	28,807	30,641	31,623	34,687	36,463
Value	$153,530	$174,841	$184,589	$200,706	$215,699	$229,985
Exports	448	671	781	594	688	662
Value	$2,790	$3,638	$4,140	$3,373	$4,285	4,472
Imports for consumption	879	1,374	1,516	2,261	2,410	2,479
Value	$4,114	$5,097	$5,112	$5,677	$6,505	6,464
Consumption, apparent	24,851	29,510	31,376	33,290	36,409	38,280
World: Production	87,372	100,860	106,010	109,360	119,450	122,810

Table 2.—Salt sold or used by producers in the United States

(Thousand short tons and thousand dollars)

State	1965		1966	
	Quantity	Value	Quantity	Value
California	1,638	W	1,693	W
Kansas [1]	1,053	12,376	969	13,388
Louisiana	8,126	41,812	8,736	44,189
Michigan	4,171	36,087	4,465	38,611
New Mexico	64	572	66	716
New York	5,002	35,771	4,980	36,203
Ohio	5,026	34,816	5,138	35,735
Oklahoma	9	65	W	W
Texas	6,964	30,771	7,724	33,797
Utah	384	3,591	427	3,770
West Virginia	1,153	5,539	1,147	5,446
Other States [2]	1,097	14,299	1,118	18,130
Total	34,687	215,699	36,463	229,985
Puerto Rico	8	138	11	183

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Quantity and value of brine included with "Other States."

[2] Includes Alabama, Colorado, Hawaii, Kansas (brine only), Nevada, North Dakota, Virginia, and States indicated by symbol W.

Table 3.—Salt sold or used by producers in the United States, by methods of recovery

(Thousand short tons and thousand dollars)

Method of recovery	1965		1966	
	Quantity	Value	Quantity	Value
Evaporated:				
Bulk:				
Open pans or grainers	303	$8,077	305	$8,220
Vacuum pans	2,547	56,156	2,633	60,317
Solar	1,700	9,803	1,769	11,688
Pressed blocks	375	8,701	328	8,529
Total	4,925	82,737	5,035	88,754
Rock:				
Bulk	9,742	55,943	10,020	59,436
Pressed blocks	68	1,767	60	1,682
Total	9,810	57,710	10,080	61,118
Salt in brine (sold or used as such)	19,952	75,252	21,348	80,113
Grand total	34,687	215,699	36,463	229,985

Table 4.—Evaporated salt sold or used by producers in the United States

(Thousand short tons and thousand dollars)

State	1965		1966	
	Quantity	Value	Quantity	Value
Kansas	453	$9,828	452	$10,836
Louisiana	256	6,293	267	6,354
Michigan	970	21,498	1,033	23,145
New York	676	15,471	648	15,312
Ohio	626	13,707	607	13,207
Oklahoma	6	57	W	W
Other States [1]	1,938	15,883	2,028	19,900
Total	4,925	82,737	5,035	88,754
Puerto Rico	8	138	11	183

W Withheld to avoid disclosing individual company confidential data; included with "Other States."

[1] Includes California, Hawaii, Nevada, New Mexico, North Dakota, Texas, Utah, and States indicated by symbol W.

Table 5.—Rock salt sold by producers in the United States

(Thousand short tons and thousand dollars)

Year	Quantity	Value	Year	Quantity	Value
1957–61 (average)	5,963	$40,513	1964	8,554	$52,290
1962	7,726	46,874	1965	9,810	57,710
1963	8,345	51,648	1966	10,080	61,118

Table 6.—Pressed-salt blocks sold by original producers of salt in the United States

(Thousand short tons and thousand dollars)

Year	From evaporated salt		From rock salt		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	309	$6,936	57	$1,458	366	$8,394
1962	366	8,034	61	1,576	427	9,610
1963	362	7,914	60	1,589	422	9,503
1964	387	8,659	65	1,725	452	10,384
1965	375	8,701	68	1,767	443	10,468
1966	328	8,529	60	1,682	388	10,211

Table 7.—Salt sold or used by producers in the United States, by classes and consumers or uses

(Thousand short tons)

Consumer or use	1965				1966			
	Evaporated	Rock	Brine	Total	Evaporated	Rock	Brine	Total
Chlorine	W	W	12,136	14,257	W	W	13,196	15,410
Soda ash	W	W	6,462	6,464	W	W	7,207	7,208
Soap (including detergents)	25	9	-----	34	23	8	23	54
All other chemicals	326	701	1,144	2,171	W	1,206	W	1,541
Textile and dyeing	W	141	W	242	W	104	W	202
Meatpackers, tanners, and casing manufacturers	306	458	-----	764	W	424	W	723
Fishing	17	5	-----	22	16	4	-----	20
Dairy	42	4	-----	46	40	4	-----	44
Canning	177	37	-----	214	172	36	-----	208
Baking	103	4	-----	107	103	W	W	107
Flour processors (including cereal)	59	10	-----	69	60	8	-----	68
Other food processing	127	30	-----	157	140	30	-----	170
Ice manufacturers and cold-storage companies	14	22	-----	36	W	17	W	26
Feed dealers	661	W	W	1,067	654	369	-----	1,023
Feed mixers	289	142	-----	431	302	131	-----	433
Metals	56	89	-----	145	W	106	W	236
Ceramics (including glass)	4	9	-----	13	4	10	-----	14
Rubber	W	W	53	86	W	W	93	132
Oil	63	62	90	215	61	64	52	177
Paper and pulp	W	137	W	196	W	134	W	192
Water-softener manufactures and service companies	W	287	W	540	301	286	4	591
Grocery stores	595	387	-----	982	639	291	-----	930
Railroads	6	26	-----	32	10	27	-----	37
Bus and transit companies	3	45	-----	48	W	14	W	17
States, counties, and other political subdivision (except Federal)	201	4,332	3	4,536	174	3,956	3	4,133
U.S. Government	24	71	-----	95	W	29	W	55
Miscellaneous	1,086	615	17	1,718	1,118	934	660	2,712
Undistributed [1]	741	2,187	47	-----	1,218	1,888	110	-----
Total	4,925	9,810	19,952	34,687	5,035	10,080	21,348	36,463

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Includes some exports and consumption in the overseas areas administered by the United States, and items indicated by symbol W.

Table 8.—Distribution (shipments) of evaporated and rock salt produced in the United States, by destination

(Thousand short tons)

Destination	1965		1966	
	Evaporated	Rock	Evaporated	Rock
Alabama	30	433	37	485
Alaska	4	-----	W	-----
Arizona	W	7	W	5
Arkansas	15	65	17	74
California	802	W	850	W
Colorado	85	24	81	28
Connecticut	17	W	18	W
Delaware	8	W	8	W
District of Columbia	4	W	4	W
Florida	25	99	29	95
Georgia	49	127	55	222
Hawaii	4	-----	W	-----
Idaho	31	W	43	W
Illinois	243	658	268	524
Indiana	132	293	135	306
Iowa	147	232	148	211
Kansas	68	193	70	184
Kentucky	41	227	43	274
Louisiana	30	255	33	332
Maine	31	W	12	W
Maryland	75	W	43	W
Massachusetts	79	270	70	374
Michigan	189	W	174	W
Minnesota	127	231	143	266
Mississippi	18	87	15	73
Missouri	84	192	83	304
Montana	33	1	35	1
Nebraska	83	100	86	84
Nevada	15	W	24	W
New Hampshire	5	131	5	W
New Jersey	154	W	161	405
New Mexico	13	55	13	57
New York	244	W	256	W
North Carolina	113	140	107	153
North Dakota	38	5	39	4
Ohio	260	815	283	812
Oklahoma	32	61	30	57
Oregon	57	W	55	W
Pennsylvania	184	593	187	619
Rhode Island	10	W	11	W
South Carolina	34	18	32	18
South Dakota	37	24	38	22
Tennessee	125	268	122	W
Texas	99	232	105	360
Utah	106	W	138	W
Vermont	7	56	8	W
Virginia	89	130	87	142
Washington	184	W	155	W
West Virginia	25	61	22	94
Wisconsin	137	288	146	259
Wyoming	20	3	21	W
Other [1]	483	3,436	490	3,236
Total	4,925	9,810	5,035	10,080

W Withheld to avoid disclosing individual company confidential data; included with "Other".

[1] Includes shipments to overseas areas administered by the United States, Puerto Rico, exports, some shipments to unspecified destinations, and States indicated by symbol W

Table 9.—Salt shipped to the Commonwealth of Puerto Rico and overseas areas administered by the United States

(Thousand short tons and thousand dollars)

Area	1965		1966	
	Quantity	Value	Quantity	Value
American Samoa	(1)	$11	(1)	$16
Guam	(1)	14	(1)	14
Puerto Rico	16	1,220	10	762
Virgin Islands	(1)	18	(1)	13

[1] Less than ½ unit.

Table 10.—U.S. exports of salt by countries

(Thousand short tons and thousand dollars)

Destination	1965		1966	
	Quantity	Value	Quantity	Value
North America:				
Canada	163	$1,414	178	$1,637
Mexico	1	61	2	62
Netherlands Antilles	1	43	2	47
Other	2	110	2	173
South America:				
Brazil	137	632	45	206
Other	1	41	(1)	58
Europe:				
Greece	1	38	1	43
Other	(1)	117	1	100
Africa	(1)	31	(1)	52
Asia:				
Japan	379	1,601	429	1,890
Other	2	112	1	118
Oceania	1	85	1	86
Total	688	4,285	662	4,472

[1] Less than ½ unit.

Table 11.—U.S. imports for consumption of salt, by countries [1]

(Thousand short tons and thousand dollars)

Country	1965		1966	
	Quantity	Value	Quantity	Value
North America:				
Bahamas	344	$1,305	330	$1,234
Canada	1,432	4,017	1,320	3,503
Mexico	480	744	636	982
Europe:				
Spain	45	135	43	305
Other	(2)	(2)	(2)	2
Africa:				
Tunisia	109	304	124	371
United Arab Republic (Egypt)	-----	-----	26	66
Asia: Israel	-----	-----	(2)	1
Total	2,410	6,505	2,479	6,464

[1] Includes salt brine from Canada through the Michigan customs district for 1965, 645,481 short tons valued at $179,350; 1966, 657,489 short tons valued at $208,866.

[2] Less than ½ unit.

Table 12.—U.S. imports for consumption of salt, by classes

(Thousand short tons and thousand dollars)

Year	In bags, sacks, barrels, or other packages (dutiable)		Bulk (dutiable) [1]	
	Quantity	Value	Quantity	Value
1957–61 (average)	29	$386	850	$3,728
1962	15	254	1,359	4,843
1963	10	158	1,506	4,954
1964	11	158	2,250	5,519
1965	14	241	2,396	6,264
1966	10	208	2,469	6,256

[1] Includes salt brine from Canada through the Michigan customs district for 1965, 645,481 short tons valued at $179,850; 1966, 657,489 short tons valued at $208,866.

Table 13.—U.S. imports for consumption of salt, by customs districts [1]

(Thousand short tons and thousand dollars)

Customs district	1965		1966	
	Quantity	Value	Quantity	Value
Baltimore	65	$200	85	$226
Boston	88	323	71	370
Bridgeport, Conn	21	95	52	240
Buffalo	23	92	97	534
Chicago	198	986	72	350
Cleveland	87	361	52	219
Detroit	944	1,693	921	1,495
Duluth	23	119	21	104
Juneau, Alaska	-----	-----	(2)	2
Los Angeles	105	217	118	243
Milwaukee	61	258	43	197
Minneapolis	(2)	1	-----	-----
New York, N.Y	40	143	64	263
Norfolk, Va	9	34	(2)	1
Ogdensburg, N.Y	-----	-----	(2)	1
Philadelphia	18	49	12	32
Portland, Maine	83	359	67	420
Portland, Oregon	130	161	135	231
Providence, R.I	14	60	4	19
Rochester, N.Y	16	103	(3)	(3)
St. Albans, Vt	9	35	3	18
San Juan, P.R	6	30	(2)	1
Savannah	178	657	168	621
Seattle	280	498	453	768
Wilmington, N.C	12	31	41	109
Total	2,410	6,505	2,479	6,464

[1] Includes salt brine from Canada through the Michigan customs district for 1965, 645,481 short tons valued at $179,350; 1966, 657,489 short tons valued at $203,866.

[2] Less than ½ unit.

[3] Effective Jan. 1, 1966 no longer separate included with Buffalo district.

Table 14.—World production of salt by countries [1]

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	3,665	3,701	3,982	4,584	4,328
Costa Rica	10	7	22	2	2
El Salvador	20	79	180	140	[e] 140
Guatemala (sales)	19	21	20	17	[e] 17
Honduras	11	[e] 11	[e] 11	[e] 11	[e] 11
Mexico	1,424	1,350	1,965	2,425	2,643
Nicaragua	10	18	19	20	21
Panama	12	11	12	12	10
United States (including Puerto Rico):					
Rock salt	7,726	8,345	8,554	9,810	10,080
Other salt:					
United States	21,081	22,296	23,069	24,877	26,883
Puerto Rico	-----	8	5	8	11
West Indies:					
British:					
Bahamas	222	283	370	[e] 524	[e] 496
Leeward Islands	[4] 1	7	[3] 3	8	[e] 8
Turks and Caicos Islands	23	30	9	8	[e] 3
Cuba	[e] 77	[r] 99	[r] 96	117	[e] 110
Dominican Republic:					
Rock salt	35	25	[r] 2	23	[e] 22
Other salt	11	[e] 11	[r] 32	29	[e] 28
Haiti	[e] 11	[e] 11	11	11	[e] 11
Netherlands Antilles	(4)	(4)	(4)	[e] 2	[e] 2
South America:					
Argentina:					
Rock salt	2	3	2	3	2
Other salt	613	300	431	807	854
Brazil	1,367	1,315	831	1,328	1,447
Chile	56	53	[r] 104	110	224
Colombia:					
Rock salt	293	292	319	309	312
Other salt	43	37	56	51	133
Ecuador	29	[e] 39	[e] 39	[e] 39	[e] 39
Peru	104	96	147	137	191
Venezuela	160	84	224	190	[e] 190
Europe:					
Austria:					
Rock salt	6	6	1	1	1
Other salt	313	373	370	445	486
Bulgaria	164	116	90	138	[e] 138
Czechoslovakia	201	206	203	211	[e] 209
Denmark	-----	-----	-----	-----	28
France:					
Rock salt and salt from springs	3,297	3,405	3,573	3,663	3,417
Other salt	1,397	667	872	1,241	[e] 1,213
Germany:					
East	[r] 2,249	[r] 2,291	[r] 2,291	2,083	[e] 2,200
West (marketable):					
Rock salt	5,027	5,769	5,957	5,627	6,492
Brine salt	381	400	440	483	625
Greece	127	91	112	100	[e] 100
Italy:					
Rock salt and brine salt	1,908	2,086	[r] 2,244	2,347	2,081
Other salt	[r] 1,278	1,022	[r] 928	1,221	1,819
Malta	2	2	2	2	3
Netherlands	1,391	1,630	1,759	1,882	2,047
Poland:					
Rock salt	671	711	728	[r] 743	760
Other salt	1,616	1,639	1,743	1,789	1,890
Portugal	429	383	354	[e] 353	[e] 353
Rumania	1,628	1,804	1,994	2,222	2,255
Spain:					
Rock salt	690	771	808	836	[e] 838
Other salt [5]	1,118	1,101	[r] 1,313	1,335	[e] 1,323
Switzerland	185	211	201	254	202
U.S.S.R.	[r] 9,424	[r] 10,538	[r] 11,133	[e] 10,500	[e] 10,500
United Kingdom:					
Rock salt	535	842	776	810	1,176
Other salt	6,164	6,317	6,659	6,906	6,929
Yugoslavia	237	184	203	192	182
Africa:					
Algeria	130	137	128	128	[e] 128
Angola	66	76	89	65	67
Cape Verde Islands	30	32	35	44	[e] 40
Chad, Republic of (Natron) [e]	28	28	8	11	11
Congo, (Kinshasa)	1	(4)	1	1	NA
Ethiopia [6]	218	281	[r] 226	207	[e] 207

See footnotes at end of table.

Table 14.—World production of salt by countries [1]—Continued

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [2]
Africa—Continued					
Ghana	21	20	34	30	40
Kenya	21	19	30	34	35
Libya	17	21	[r] 13	13	55
Malagasy Republic	[e] 154	220	320	160	503
Mali	4	NA	NA	3	4
Mauritius	4	4	4	4	4
Morocco	31	41	67	37	43
Mozambique	31	44	NA	[r] 33	22
Nigeria	(4)	(4)	1	1	NA
Senegal, Republic of (including Mauritania)	53	66	62	[r] 56	67
Somali Republic	[e] 2	2	7	6	(4)
South Africa, Republic of	281	218	331	365	346
South-West Africa:					
Rock salt	4	6	6	6	69
Other salt	78	66	103	[r] 103	
Sudan	64	41	66	57	47
Tanzania	33	37	36	[r] 43	45
Tunisia (sales)	187	340	236	392	362
Uganda	3	3	3	3	2
United Arab Republic (Egypt)	371	432	744	545	691
Asia:					
Aden	86	95	89	79	79
Afghanistan:					
Rock salt	24	23	14	20	22
Other salt	72	13	13	22	21
Burma	172	177	140	[r] 146	[e] 145
Cambodia	[e] 44	66	[e] 65	NA	NA
Ceylon	51	25	57	86	[e] 71
China, mainland [e]	11,000	11,600	11,000	14,300	14,300
Cyprus	7	8	NA	6	4
Goa	11	[e] 11			
India:			5,122	5,184	4,969
Rock salt	6	[r] 5,006			
Other salt	4,278				
Indonesia	335	[r] 495	[r] 58	[r] 278	[e] 276
Iran [7]	[r] 271	380	[r] 243	[r] 248	[e] 248
Iraq [8]	42	34	[e] [r] 30	[e] 66	[e] 60
Israel	50	57	[r] 47	61	[e] 61
Japan	969	823	984	935	937
Jordan	21	20	22	22	14
Korea:					
North	464	[e] 500	[e] 440	[e] 550	[e] 550
South	428	254	425	737	433
Kuwait	-----	-----	-----	8	NA
Laos	NA	NA	[e] 3	[e] 3	4
Lebanon	[e] 18	21	22	26	28
Mongolia [e]	9	9	9	9	9
Pakistan:					
Rock salt	215	267	217	299	345
Other salt	280	234	[r] 214	[r] 246	216
Philippines	106	77	52	248	157
Ryukyu Islands	4	4	[r] 3	[r] 3	7
Saudi Arabia	NA	11	NA	NA	3
Syrian Arab Republic	20	17	[r] 18	[r] 23	[e] 22
Taiwan	656	690	664	617	453
Thailand	284	293	[r] 209	[r] 207	[e] 220
Turkey:					
Rock salt	31	33	36	39	35
Other salt	462	406	355	505	279
Viet-Nam:					
North	159	141	[e] 165	[e] 165	[e] 165
South	213	[r] 216	[r] 208	[r] 177	[e] 176
Yemen	165	[e] 110	[e] 39	-----	NA
Oceania:					
Australia	600	651	611	[r] 733	[e] 733
New Zealand	10	12	24	39	40
World total [e]	[r] 100,860	[r] 106,010	[r] 109,360	[r] 119,450	122,810

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Salt is believed to be produced in Albania, Bolivia, and Mauritania, data not available. No estimates included in the total.

[2] Compiled mostly from data available July 1967.

[3] Exports.

[4] Less than ½ unit.

[5] Includes an average annual production in the Canary Islands of 15,000 metric tons of sea-salt.

[6] Year ended September 10 of year stated.

[7] Year ended March 20 of year following that stated.

[8] Year ended March 31 of year following that stated.

Sand and Gravel

Table 1.—Sand and gravel sold or used by producers in the United States, by classes of operation and uses

(Thousand short tons and thousand dollars)

Class of operations and use	1965 Quantity	1965 Value	1966 Quantity	1966 Value
Construction:				
Building:				
Sand	[r] 149,918	[r] $158,294	155,652	$163,109
Gravel	[r] 123,668	[r] 158,048	128,692	167,138
Paving:				
Sand	124,730	118,465	134,667	125,205
Gravel	341,351	338,351	356,125	345,322
Fill:				
Sand	43,612	23,076	43,650	26,814
Gravel	74,747	55,014	63,848	44,385
Railroad ballast:				
Sand	302	194	249	226
Gravel	2,640	2,062	4,439	3,189
Other:				
Sand	8,782	7,679	7,743	6,781
Gravel	7,997	9,580	8,112	9,442
Total construction	[r] 877,747	[r] 870,763	903,177	891,611
Industrial sand:				
Unground:				
Glass	8,228	26,154	8,823	27,723
Molding	9,831	26,319	10,679	29,877
Grinding and polishing	958	1,744	744	1,565
Blast sand	1,071	3,991	987	4,826
Fire or furnace	592	1,337	555	1,407
Engine	905	1,927	836	1,828
Filtration	261	520	489	995
Oil hydrafrac	259	1,830	299	2,003
Other	1,650	5,283	1,735	5,595
Total unground	23,755	69,105	25,147	75,819
Ground [1]	1,636	11,238	1,213	10,803
Total industrial	25,391	80,343	26,360	86,622
Miscellaneous gravel	4,911	6,310	4,944	6,749
Grand total	[r] 908,049	[r] 957,416	934,481	984,982
Commercial:				
Sand	297,413	348,878	315,843	368,755
Gravel	358,471	397,780	363,754	408,205
Government-and-contractor: [2]				
Sand	[r] 55,322	[r] 39,173	52,478	40,002
Gravel	[r] 196,843	[r] 171,585	202,406	168,020

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[r] Revised.

[1] See table 10 for use breakdown.

[2] Approximate figures for operations by States, counties, municipalities, and other Government agencies under lease.

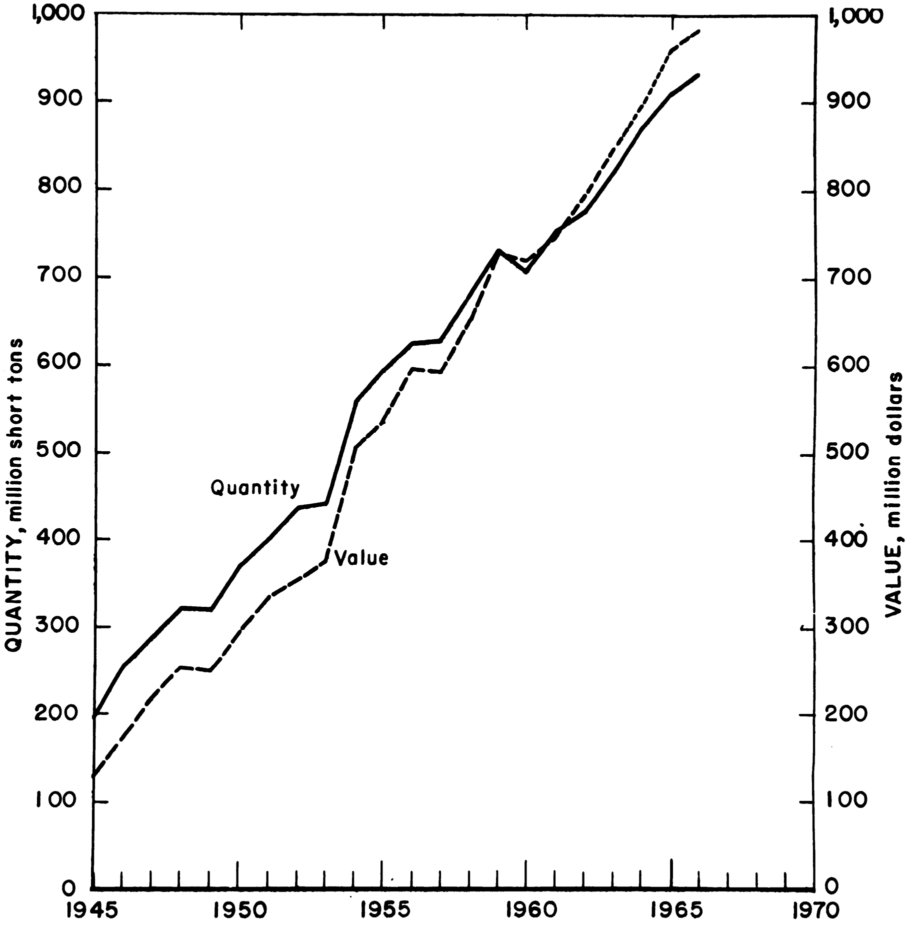

Figure 1.—Production and value of sand and gravel in the United States.

Table 2.—Sand and gravel sold or used by producers in the United States

(Thousand short tons and thousand dollars)

Year	Sand		Gravel		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	259,171	$276,278	442,536	$414,319	701,707	$690,597
1962	299,757	328,563	476,944	466,162	776,701	794,725
1963	313,978	338,500	507,872	508,772	821,850	847,272
1964	326,641	358,129	541,567	535,246	868,208	893,375
1965 [r]	352,735	388,051	555,314	569,365	908,049	957,416
1966	368,321	408,757	566,160	576,225	934,481	984,982

[r] Revised.

Table 3.—Sand and gravel sold or used by producers in the United States, by States, and classes of operations

(Thousand short tons and thousand dollars)

State	1965						1966					
	Commercial		Government-and-contractor		Total		Commercial		Government-and-contractor		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	6,422	$7,195	------	------	6,422	$7,195	6,971	$7,840	111	$113	7,082	$7,953
Alaska	5,256	5,600	25,010	$28,867	30,266	34,467	1,075	1,263	16,382	20,530	17,457	21,793
Arizona	7,554	9,229	7,364	7,392	14,918	16,621	8,024	9,737	10,706	10,711	18,730	20,448
Arkansas	9,559	12,001	3,247	3,835	12,806	15,836	11,677	15,656	4,379	5,382	16,056	21,038
California	97,270	115,804	21,040	20,423	118,310	136,227	103,184	123,374	17,508	15,783	120,692	139,157
Colorado	11,189	12,751	9,621	9,290	20,810	22,041	10,396	11,932	11,849	11,553	22,245	23,485
Connecticut	7,320	8,067	2,620	1,039	9,940	9,106	7,004	7,954	2,557	1,009	9,561	8,963
Delaware	1,545	1,441	------	------	1,545	1,441	1,610	1,443	------	------	1,610	1,443
Florida	6,863	6,094	435	283	7,298	6,377	6,953	6,132	450	285	7,403	6,417
Georgia	3,675	3,588	------	------	3,675	3,588	3,915	4,185	------	------	3,915	4,185
Hawaii	745	2,225	6	12	751	2,237	510	1,589	1	2	511	1,591
Idaho	2,811	3,520	9,340	9,678	12,151	13,198	2,390	2,574	5,154	4,098	7,544	6,672
Illinois	35,260	39,880	968	600	36,228	40,480	37,262	42,606	975	595	38,237	43,201
Indiana	24,159	21,817	708	403	24,867	22,220	24,165	23,066	827	476	24,992	23,542
Iowa	14,379	14,810	3,826	2,342	18,205	17,152	15,836	15,835	3,808	2,378	19,644	18,213
Kansas	9,960	7,494	2,584	979	12,544	8,473	9,316	7,193	2,311	1,181	11,627	8,374
Kentucky	6,316	6,025	426	307	6,742	6,332	7,617	7,231	447	293	8,064	7,524
Louisiana	14,024	16,306	274	99	14,298	16,405	18,171	22,459	45	45	18,216	22,504
Maine	2,210	1,694	15,084	6,137	17,294	7,831	2,165	1,644	12,871	5,383	15,036	7,027
Maryland	16,047	21,129	153	59	16,200	21,188	14,839	20,295	269	88	15,108	20,383
Massachusetts	13,091	13,452	9,050	2,720	22,141	16,172	14,732	15,818	2,589	2,028	17,321	17,846
Michigan	43,423	42,059	9,745	5,117	53,168	47,176	44,465	43,799	10,658	5,722	55,123	49,521
Minnesota	26,816	20,919	10,729	6,377	37,545	27,296	27,977	22,109	11,354	6,863	39,331	28,972
Mississippi	7,192	7,785	1,255	932	8,447	8,717	[1] 12,307	12,815	368	748	[1] 12,675	13,563
Missouri	11,229	12,954	839	781	12,068	13,735	10,454	13,283	248	257	10,702	13,540
Montana	3,333	3,344	8,715	10,243	12,048	13,587	2,369	2,696	11,447	10,827	13,816	13,523
Nebraska	10,421	12,174	1,572	1,523	11,993	13,697	11,375	12,227	2,164	1,952	13,539	14,179
Nevada	5,508	8,847	3,947	2,949	9,455	11,796	3,662	5,949	5,423	3,185	9,085	9,134
New Hampshire	3,421	3,043	7,163	2,516	10,584	5,559	3,636	3,399	3,990	1,408	7,626	4,807
New Jersey	17,387	28,645	2	1	17,389	28,646	17,762	29,311	20	11	17,782	29,322
New Mexico	5,696	6,445	6,067	5,685	11,763	12,130	3,454	3,994	12,049	9,035	15,503	13,029
New York	25,064	29,172	14,161	11,198	39,225	40,370	27,153	31,769	14,750	11,322	41,903	43,091
North Carolina	7,263	8,272	3,236	1,804	10,499	10,076	7,618	8,821	3,983	2,311	11,601	11,132
North Dakota	2,989	3,546	4,585	4,349	7,574	7,895	5,059	5,755	5,086	4,813	10,145	10,568
Ohio	40,724	49,218	128	87	40,852	49,305	43,737	52,859	114	50	43,851	52,909
Oklahoma	4,570	5,614	648	409	5,218	6,023	4,329	6,151	1,711	1,414	6,040	7,565
Oregon	10,253	12,817	11,547	20,032	21,800	32,849	10,054	12,452	25,273	22,534	35,327	34,986
Pennsylvania	18,470	29,540	32	66	18,502	29,606	17,519	29,489	48	73	17,567	29,562
Rhode Island	1,681	1,811	------	------	1,681	1,811	2,276	2,212	------	------	2,276	2,212
South Carolina	5,248	6,688	------	------	5,248	6,688	6,016	7,668	------	------	6,016	7,668

See footnote at end of table.

Table 3.—Sand and gravel sold or used by producers in the United States by States, and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	1965						1966					
	Commercial		Government-and-contractor		Total		Commercial		Government-and-contractor		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
South Dakota	2,610	$3,027	11,388	$11,128	13,998	$14,155	2,422	$2,875	11,208	$10,710	13,630	$13,585
Tennessee	7,373	10,031	820	659	8,193	10,690	7,873	10,584	755	558	8,628	11,142
Texas	27,488	33,572	5,161	2,503	32,649	36,075	23,089	28,947	3,133	2,366	26,222	31,313
Utah	5,583	6,232	r 4,449	r 4,232	r 10,032	r 10,464	4,587	5,194	7,781	7,743	12,368	12,937
Vermont	1,417	1,437	667	233	2,084	1,670	1,226	1,218	1,097	526	2,323	1,744
Virginia	15,301	18,013	21	6	15,322	18,019	17,084	16,597	107	38	17,191	16,635
Washington	15,399	15,321	15,902	11,913	31,301	27,234	18,846	18,179	10,156	8,627	29,002	26,806
West Virginia	5,253	11,480	------	------	5,253	11,480	5,448	11,569	------	------	5,448	11,569
Wisconsin	25,669	20,552	13,082	7,155	38,751	27,707	28,466	23,358	13,057	7,355	41,523	30,713
Wyoming	3,448	3,978	4,548	4,395	7,996	8,373	1,522	1,855	5,665	5,641	7,187	7,496
Total	655,884	746,658	r 252,165	r 210,758	r 908,049	r 957,416	679,597	776,960	254,884	208,022	934,481	984,982
American Samoa	------	------	60	55	60	55	------	------	20	18	20	18
Panama Canal Zone	83	85	------	------	83	85	72	91	------	------	72	91
Puerto Rico	7,265	11,554	882	851	8,147	12,405	8,844	13,561	1,035	993	9,879	14,554

r Revised.

[1] Increase in production in 1966 due mainly to expanded coverage.

Table 4.—Sand and gravel sold or used by producers in the United States in 1966, by States, uses and classes of operations

(Thousand short tons and thousand dollars)

State	Sand, construction							
	Building				Paving			
	Commercial		Government-and-contractor		Commercial		Government-and-contractor	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	2,353	$2,270	------	------	502	$467	46	$41
Alaska	57	201	------	------	2	9	402	1,399
Arizona	2,849	3,382	------	------	439	573	1,380	1,373
Arkansas	1,443	1,616	10	$10	3,047	3,076	1,963	1,817
California	21,347	25,046	103	119	14,906	16,123	2,870	3,535
Colorado	2,057	2,511	7	7	330	390	1,470	1,457
Connecticut	1,823	2,071	------	------	1,716	1,757	102	37
Delaware	343	383	------	------	200	201	------	------
Florida	5,689	4,319	------	------	245	208	200	153
Georgia	2,951	2,565	------	------	474	340	------	------
Hawaii	461	1,449	------	------	3	4	[1]	1
Idaho	297	539	8	9	81	91	81	59
Illinois	6,823	6,181	------	------	5,615	4,920	207	114
Indiana	4,654	4,005	------	------	4,127	3,454	23	10
Iowa	3,054	2,899	------	------	2,715	2,659	98	51
Kansas	4,026	3,186	108	108	2,636	1,980	1,096	510
Kentucky	2,809	2,945	------	------	1,323	1,282	29	14
Louisiana	4,295	4,632	------	------	3,170	3,287	------	------
Maine	280	166	------	------	300	270	3,065	1,400
Maryland	3,874	5,256	------	------	1,860	2,758	6	2
Massachusetts	3,485	3,586	------	------	2,197	2,070	178	176
Michigan	6,350	5,093	------	------	5,469	4,645	2,115	1,008
Minnesota	3,702	3,131	1	[1]	2,481	1,406	2,310	1,247
Mississippi	2,629	2,429	------	------	2,304	2,171	4	4
Missouri	3,831	3,547	------	------	629	638	124	124
Montana	268	410	------	------	88	126	894	767
Nebraska	2,351	2,209	------	------	990	918	549	549
Nevada	520	1,204	123	90	52	99	25	26
New Hampshire	618	492	------	------	704	567	1,811	642
New Jersey	5,182	5,485	------	------	2,923	2,825	------	------
New Mexico	899	1,021	3	4	135	157	488	381
New York	10,253	11,774	90	135	4,003	4,331	679	449
North Carolina	2,376	2,023	------	------	1,188	1,166	2,175	1,134
North Dakota	538	645	------	------	927	889	2,144	2,034
Ohio	7,044	7,799	------	------	8,678	9,011	7	2
Oklahoma	1,487	1,437	12	16	742	715	704	665
Oregon	1,091	1,557	3	3	534	828	240	400
Pennsylvania	5,228	7,698	------	------	3,362	5,183	7	10
Rhode Island	438	405	------	------	394	361	------	------
South Carolina	2,978	1,848	------	------	383	230	------	------
South Dakota	404	493	------	------	165	206	2,246	2,258
Tennessee	2,195	2,752	------	------	1,106	1,772	29	43
Texas	7,455	6,896	10	17	2,906	2,900	404	247
Utah	1,053	1,209	------	------	167	200	1,170	1,184
Vermont	199	157	------	------	210	162	207	213
Virginia	2,305	2,561	------	------	6,627	4,033	38	13
Washington	2,650	2,946	312	416	1,113	1,130	266	180
West Virginia	1,704	2,200	------	------	418	705	------	------
Wisconsin	3,925	3,279	15	6	2,889	2,080	2,519	1,257
Wyoming	201	258	3	3	105	130	2,716	2,716
Undistributed	------	------	------	------	------	------	------	------
Total	154,844	162,166	808	943	97,580	95,503	37,087	29,702
American Samoa	------	------	20	18	------	------	------	------
Panama Canal Zone	------	------	------	------	------	------	------	------
Puerto Rico	2,409	4,445	------	------	1,884	2,130	279	303

[1] Less than ½ unit.

Table 4.—Sand and gravel sold or used by producers in the United States in 1966, by States, uses and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	Sand, construction—Continued									
	Railroad ballast (commercial)		Fill				Other [2]			
			Commercial		Government-and-contractor		Commercial		Government-and-contractor	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	-----	-----	28	$10	-----	-----	W	W	-----	-----
Alaska	-----	-----	211	117	3,321	$3,658	31	$76	13	$9
Arizona	-----	-----	234	200	211	182	W	W	-----	-----
Arkansas	-----	-----	372	334	-----	-----	W	W	-----	-----
California	W	W	3,896	2,834	3,222	1,835	1,155	1,156	7	19
Colorado	-----	-----	120	113	22	22	W	W	-----	-----
Connecticut	-----	-----	183	107	-----	-----	275	274	27	13
Delaware	-----	-----	8	3	-----	-----	-----	-----	-----	-----
Florida	-----	-----	264	170	250	132	W	W	-----	-----
Georgia	-----	-----	W	W	-----	-----	-----	-----	-----	-----
Hawaii	-----	-----	4	7	-----	-----	-----	-----	1	1
Idaho	W	W	6	6	18	9	15	17	-----	-----
Illinois	25	$25	W	W	-----	-----	W	W	-----	-----
Indiana	12	4	2,099	1,446	-----	-----	69	48	16	9
Iowa	4	2	1,112	721	15	5	W	W	2	1
Kansas	48	22	869	398	4	2	92	90	-----	-----
Kentucky	-----	-----	1,007	489	-----	-----	W	W	-----	-----
Louisiana	-----	-----	W	W	-----	-----	W	W	-----	-----
Maine	-----	-----	279	105	-----	-----	72	46	238	183
Maryland	-----	-----	W	W	-----	-----	1,178	1,118	-----	-----
Massachusetts	-----	-----	604	213	-----	-----	W	W	22	27
Michigan	W	W	3,639	1,659	1,116	397	W	W	114	42
Minnesota	W	W	846	319	118	56	W	W	14	6
Mississippi	W	W	W	W	142	191	W	W	-----	-----
Missouri	W	W	392	345	-----	-----	W	W	-----	-----
Montana	-----	-----	5	4	8	7	8	12	39	41
Nebraska	W	W	785	680	-----	-----	W	W	-----	-----
Nevada	-----	-----	134	105	12	24	183	106	-----	-----
New Hampshire	-----	-----	76	31	20	7	W	W	-----	-----
New Jersey	-----	-----	597	315	-----	-----	78	96	1	([1])
New Mexico	-----	-----	52	26	-----	-----	-----	-----	-----	-----
New York	5	5	1,441	1,167	2,766	1,151	566	556	617	332
North Carolina	W	W	221	167	775	449	W	W	362	153
North Dakota	-----	-----	121	101	-----	-----	1	1	-----	-----
Ohio	-----	-----	1,881	1,234	8	2	305	324	-----	-----
Oklahoma	-----	-----	414	177	-----	-----	W	W	10	5
Oregon	W	W	209	200	2	1	39	36	9	6
Pennsylvania	-----	-----	20	19	-----	-----	W	W	-----	-----
Rhode Island	-----	-----	W	W	-----	-----	W	W	-----	-----
South Carolina	-----	-----	277	171	-----	-----	-----	-----	-----	-----
South Dakota	-----	-----	73	65	-----	-----	W	W	9	9
Tennessee	24	41	59	42	-----	-----	W	W	-----	-----
Texas	-----	-----	510	260	-----	-----	164	171	-----	-----
Utah	1	1	76	38	37	19	1	8	-----	-----
Vermont	-----	-----	W	W	-----	-----	W	W	-----	-----
Virginia	-----	-----	1,913	1,105	53	18	41	26	-----	-----
Washington	W	W	1,379	764	178	60	17	30	-----	-----
West Virginia	-----	-----	44	55	-----	-----	-----	-----	-----	-----
Wisconsin	W	W	1,355	637	622	203	W	W	162	71
Wyoming	-----	-----	27	34	-----	-----	-----	-----	-----	-----
Undistributed	130	126	2,888	1,391	-----	-----	1,790	1,668	-----	-----
Total	249	226	30,730	18,384	12,920	8,430	6,080	5,854	1,663	927
American Samoa	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Panama Canal Zone	-----	-----	-----	-----	-----	-----	72	91	-----	-----
Puerto Rico	-----	-----	634	547	586	539	-----	-----	-----	-----

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Less than ½ unit.

[2] Includes unspecified.

Table 4.—Sand and gravel sold or used by producers in the United States in 1966, by States, uses and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	Sand, industrial (commercial)									
	Glass		Molding		Grinding and polishing		Blast		Fire or Furnace	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	-----	-----	W	W	-----	-----	-----	-----	-----	-----
Alaska	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Arizona	-----	-----	-----	-----	-----	-----	W	W	-----	-----
Arkansas	83	$188	W	W	W	W	-----	-----	-----	-----
California	W	W	67	$320	-----	-----	271	$1,160	W	W
Colorado	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Connecticut	-----	-----	1	1	W	W	-----	-----	-----	-----
Delaware	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Florida	W	W	-----	-----	-----	-----	62	428	-----	-----
Georgia	W	W	W	W	-----	-----	W	W	-----	-----
Hawaii	-----	-----	-----	-----	-----	-----	7	19	-----	-----
Idaho	6	37	-----	-----	-----	-----	W	W	-----	-----
Illinois	1,745	3,655	1,203	3,916	W	W	W	W	W	W
Indiana	W	W	W	W	-----	-----	W	W	W	W
Iowa	-----	-----	W	W	-----	-----	W	W	-----	-----
Kansas	-----	-----	-----	-----	-----	-----	W	W	-----	-----
Kentucky	-----	-----	W	W	-----	-----	-----	-----	-----	-----
Louisiana	-----	-----	-----	-----	-----	-----	W	W	-----	-----
Maine	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Maryland	W	W	-----	-----	-----	-----	-----	-----	-----	-----
Massachusetts	-----	-----	W	W	-----	-----	4	45	-----	-----
Michigan	W	W	3,611	6,735	-----	-----	-----	-----	W	W
Minnesota	W	W	W	W	-----	-----	W	W	-----	-----
Missouri	540	1,321	W	W	W	W	W	W	-----	-----
Montana	-----	-----	-----	-----	-----	-----	1	2	-----	-----
Nebraska	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nevada	W	W	W	W	-----	-----	-----	-----	10	$23
New Hampshire	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New Jersey	W	W	1,817	5,918	-----	-----	141	748	W	W
New Mexico	-----	-----	-----	-----	-----	-----	1	1	-----	-----
New York	-----	-----	187	768	-----	-----	-----	-----	-----	-----
North Carolina	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
North Dakota	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ohio	W	W	543	2,311	-----	-----	W	W	173	523
Oklahoma	W	W	W	W	-----	-----	W	W	-----	-----
Oregon	-----	-----	1	4	-----	-----	W	W	-----	-----
Pennsylvania	W	W	185	526	W	W	W	W	87	270
Rhode Island	-----	-----	W	W	-----	-----	-----	-----	-----	-----
South Carolina	199	579	W	W	-----	-----	11	45	W	W
South Dakota	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Tennessee	W	W	340	1,039	W	W	-----	-----	10	22
Texas	W	W	144	429	-----	-----	121	535	W	W
Utah	-----	-----	-----	-----	-----	-----	W	W	W	W
Vermont	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Virginia	W	W	-----	-----	-----	-----	-----	-----	-----	-----
Washington	W	W	-----	-----	-----	-----	W	W	-----	-----
West Virginia	W	W	W	W	W	W	W	W	W	W
Wisconsin	W	W	1,076	2,953	-----	-----	W	W	-----	-----
Wyoming	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Undistributed	6,250	21,943	1,504	4,957	744	$1,565	368	1,843	275	569
Total	8,823	27,723	10,679	29,877	744	1,565	987	4,826	555	1,407
American Samoa	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Panama Canal Zone	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Puerto Rico	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 4.—Sand and gravel sold or used by producers in the United States in 1966, by States, uses and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	Sand, industrial (commercial)—Continued									
	Engine		Filtration		Oil (hydrafrac)		Other		Ground sand	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	W	W	W	W	-----	-----	W	W	-----	-----
Alaska	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Arizona	1	$8	-----	-----	W	W	-----	-----	-----	-----
Arkansas	-----	-----	-----	-----	-----	-----	W	W	W	W
California	62	179	13	$62	-----	-----	35	$168	W	W
Colorado	W	W	-----	-----	-----	-----	-----	-----	-----	-----
Connecticut	-----	-----	W	W	-----	-----	-----	-----	-----	-----
Delaware	7	5	-----	-----	-----	-----	-----	-----	-----	-----
Florida	W	W	W	W	-----	-----	W	W	-----	-----
Georgia	-----	-----	2	7	-----	-----	W	W	W	W
Hawaii	-----	-----	-----	-----	-----	-----	4	19	-----	-----
Idaho	-----	-----	1	5	-----	-----	1	6	-----	-----
Illinois	W	W	W	W	W	W	W	W	W	W
Indiana	W	W	-----	-----	-----	-----	W	W	W	W
Iowa	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Kansas	52	75	W	W	-----	-----	3	4	W	W
Kentucky	W	W	-----	-----	-----	-----	W	W	-----	-----
Louisiana	-----	-----	W	W	W	W	-----	-----	W	W
Maine	4	6	-----	-----	-----	-----	[1]	1	-----	-----
Maryland	-----	-----	-----	-----	-----	-----	W	W	-----	-----
Massachusetts	-----	-----	9	16	-----	-----	W	W	-----	-----
Michigan	W	W	-----	-----	-----	-----	W	W	W	W
Minnesota	W	W	-----	-----	W	W	-----	-----	W	W
Mississippi	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Missouri	W	W	-----	-----	-----	-----	W	W	W	W
Montana	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nebraska	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nevada	-----	-----	-----	-----	-----	-----	W	W	-----	-----
New Hampshire	W	W	-----	-----	-----	-----	-----	-----	-----	-----
New Jersey	24	81	W	W	-----	-----	W	W	157	$1,481
New Mexico	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	W	W	19	45	-----	-----	-----	-----	W	W
North Carolina	-----	-----	W	W	-----	-----	-----	-----	-----	-----
North Dakota	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ohio	W	W	W	W	-----	-----	W	W	W	W
Oklahoma	-----	-----	W	W	-----	-----	W	W	W	W
Oregon	W	W	-----	-----	-----	-----	2	4	-----	-----
Pennsylvania	W	W	-----	-----	-----	-----	235	541	W	W
Rhode Island	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
South Carolina	W	W	W	W	-----	-----	W	W	57	532
South Dakota	-----	-----	-----	-----	-----	-----	-----	-----	W	W
Tennessee	1	2	-----	-----	-----	-----	W	W	-----	-----
Texas	W	W	W	W	W	W	W	W	43	233
Utah	8	20	-----	-----	-----	-----	-----	-----	5	14
Vermont	W	W	-----	-----	-----	-----	-----	-----	-----	-----
Virginia	W	W	-----	-----	-----	-----	W	W	W	W
Washington	-----	-----	-----	-----	-----	-----	2	16	(1)	2
West Virginia	W	W	W	W	-----	-----	W	W	W	W
Wisconsin	W	W	W	W	W	W	-----	-----	-----	-----
Wyoming	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Undistributed	677	1,452	445	860	299	$2,003	1,453	4,836	951	8,541
Total	836	1,828	489	995	299	2,003	1,735	5,595	1,213	10,803
American Samoa	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Panama Canal Zone	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Puerto Rico	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] Less than ½ unit.

Table 4.—Sand and gravel sold or used by producers in the United States in 1966, by States, uses and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	Gravel, construction							
	Building				Paving			
	Commercial		Government-and-contractor		Commercial		Government-and-contractor	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	2,262	$2,826	------	------	577	$710	65	$72
Alaska	84	268	------	------	93	218	1,541	3,974
Arizona	2,213	2,945	75	$62	1,468	1,784	8,845	8,912
Arkansas	1,696	2,733	83	123	4,751	6,751	2,323	3,432
California	24,904	30,054	34	82	31,886	37,858	9,715	8,924
Colorado	2,784	3,590	374	333	4,447	4,759	9,436	9,283
Connecticut	1,412	2,202	------	------	882	1,072	2,362	916
Delaware	W	W	------	------	W	W	------	------
Florida	294	533	------	------	------	------	------	------
Georgia	W	W	------	------	W	W	------	------
Hawaii	28	82	------	------	3	9	------	------
Idaho	306	393	94	66	1,403	1,162	4,408	3,631
Illinois	7,513	6,715	------	------	10,058	9,723	751	475
Indiana	2,947	3,480	------	------	7,091	7,191	785	456
Iowa	1,278	2,213	------	------	7,032	6,524	3,680	2,317
Kansas	219	229	------	------	1,184	995	1,006	521
Kentucky	1,302	1,355	------	------	787	818	418	279
Louisiana	5,307	7,099	------	------	4,765	6,499	45	45
Maine	199	184	------	------	680	726	9,566	3,799
Maryland	2,907	5,438	------	------	2,524	3,311	192	68
Massachusetts	3,170	4,534	------	------	2,968	2,904	2,295	1,761
Michigan	6,385	8,329	87	48	17,533	14,849	6,828	4,088
Minnesota	3,123	4,842	3	2	15,920	10,562	8,703	5,482
Mississippi	3,195	3,689	------	------	3,783	4,051	10	10
Missouri	2,274	2,770	------	------	1,808	2,114	124	133
Montana	410	574	------	------	1,295	1,336	10,033	9,558
Nebraska	1,293	1,545	13	6	5,500	6,414	1,602	1,397
Nevada	607	1,073	217	116	1,333	1,691	4,797	2,629
New Hampshire	670	916	------	------	1,011	1,112	2,159	759
New Jersey	2,879	5,280	------	------	1,456	1,707	12	7
New Mexico	1,009	1,298	------	------	1,280	1,433	11,550	8,646
New York	4,755	6,905	------	------	3,659	4,706	5,819	6,334
North Carolina	1,116	1,698	------	------	1,972	2,290	671	575
North Dakota	516	737	128	128	2,524	3,106	2,772	2,609
Ohio	7,024	8,223	------	------	13,716	16,851	84	38
Oklahoma	430	785	203	215	181	241	782	513
Oregon	1,915	2,366	165	242	5,083	6,481	6,900	11,025
Pennsylvania	3,005	4,346	------	------	3,522	5,758	------	------
Rhode Island	498	559	------	------	429	489	------	------
South Carolina	W	W	------	------	W	W	------	------
South Dakota	214	317	135	100	1,459	1,700	8,818	8,343
Tennessee	965	1,203	------	------	2,089	1,949	651	475
Texas	6,809	9,566	3	5	4,045	5,457	2,716	2,097
Utah	1,830	2,194	287	335	1,167	1,328	6,065	6,095
Vermont	276	434	------	------	356	383	890	313
Virginia	2,218	3,732	------	------	2,649	3,675	16	7
Washington	4,151	4,913	968	1,268	5,228	5,411	6,929	5,560
West Virginia	1,400	1,764	------	------	671	1,065	------	------
Wisconsin	3,880	3,436	------	------	13,265	9,859	9,409	5,710
Wyoming	416	511	------	------	580	715	2,936	2,912
Undistributed	1,735	3,129	------	------	1,303	1,395	------	------
Total	125,823	164,007	2,869	3,131	197,416	211,142	158,709	134,180
American Samoa	------	------	------	------	------	------	------	------
Panama Canal Zone	------	------	------	------	------	------	------	------
Puerto Rico	2,245	4,074	------	------	------	------	------	------

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 4.—Sand and gravel sold or used by producers in the United States, in 1966, by States, uses and classes of operations—Continued

(Thousand short tons and thousand dollars)

State	Gravel, construction—Continued										Gravel miscellaneous (commercial)	
	Railroad ballast (commercial)		Fill				Other					
			Commercial		Government-and-contractor		Commercial		Government-and-contractor			
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	----	----	W	W	----	----	W	W	----	----	W	W
Alaska	16	$27	502	$255	10,942	$11,305	79	$92	163	$185	----	----
Arizona	----	----	722	554	195	182	----	----	----	----	74	$83
Arkansas	W	W	21	10	----	----	W	W	----	----	----	----
California	153	194	1,797	1,652	1,414	1,044	1,544	1,730	143	225	172	250
Colorado	1	1	540	412	540	451	26	30	----	----	65	77
Connecticut	----	----	541	260	66	43	36	40	----	----	126	159
Delaware	----	----	W	W	----	----	----	----	----	----	W	W
Florida	----	----	----	----	----	----	----	----	----	----	----	----
Georgia	----	----	W	W	----	----	----	----	----	----	----	----
Hawaii	----	----	----	----	----	----	----	----	----	----	----	----
Idaho	W	W	148	140	532	311	88	114	13	13	W	W
Illinois	235	163	1,211	682	17	6	10	13	----	----	----	----
Indiana	350	287	1,910	1,201	3	1	234	261	----	----	----	----
Iowa	69	46	336	198	----	----	32	41	13	4	----	----
Kansas	7	8	66	43	97	40	43	83	----	----	46	35
Kentucky	----	----	153	82	----	----	----	----	----	----	W	W
Louisiana	----	----	W	W	----	----	W	W	----	----	W	W
Maine	26	9	199	79	2	1	81	34	----	----	45	18
Maryland	----	----	549	327	71	18	W	W	----	----	W	W
Massachusetts	----	----	1,126	680	50	22	221	331	44	42	373	370
Michigan	201	212	353	205	396	137	56	70	2	2	----	----
Minnesota	405	249	1,010	382	165	57	29	33	40	13	----	----
Mississippi	35	13	79	130	212	543	W	W	----	----	W	W
Missouri	W	W	209	103	----	----	W	W	----	----	103	88
Montana	W	W	110	71	208	120	43	31	265	334	W	W
Nebraska	84	106	259	222	----	----	1	1	----	----	101	120
Nevada	2	3	273	315	243	291	1	1	6	9	382	575
New Hampshire	----	----	368	137	----	----	W	W	----	----	W	W
New Jersey	----	----	W	W	7	4	W	W	----	----	----	----
New Mexico	W	W	64	49	8	4	----	----	----	----	W	W
New York	W	W	1,670	973	4,705	2,892	W	W	74	29	350	306
North Carolina	W	W	W	W	----	----	----	----	----	----	W	W
North Dakota	207	103	215	169	42	42	----	----	----	----	10	4
Ohio	12	9	1,931	1,095	15	8	1,288	1,924	----	----	485	797
Oklahoma	W	W	W	W	----	----	68	99	----	----	W	W
Oregon	W	W	872	590	17,393	10,455	30	37	561	402	W	W
Pennsylvania	W	W	328	163	----	----	164	252	41	63	W	W
Rhode Island	----	----	264	172	----	----	W	W	----	----	W	W
South Carolina	W	W	----	----	----	----	----	----	----	----	W	W
South Dakota	12	9	44	35	----	----	30	20	----	----	18	18
Tennessee	W	W	40	40	75	40	W	W	----	----	W	W
Texas	W	W	244	130	----	----	180	219	----	----	W	W
Utah	34	24	198	109	222	110	1	1	----	----	24	28
Vermont	----	----	103	42	----	----	W	W	----	----	W	W
Virginia	----	----	904	482	----	----	W	W	----	----	W	W
Washington	1,891	1,150	1,667	970	1,338	1,023	651	492	165	120	60	85
West Virginia	W	W	W	W	----	----	----	----	----	----	----	----
Wisconsin	W	W	1,659	747	330	108	W	W	----	----	----	----
Wyoming	----	----	115	123	10	10	----	----	----	----	78	84
Undistributed	699	576	1,750	1,088	----	----	1,646	2,052	----	----	2,432	3,652
Total	4,439	3,189	24,550	15,117	39,298	29,268	6,582	8,001	1,530	1,441	4,944	6,749
American Samoa	----	----	----	----	143	115	----	----	----	----	----	----
Panama Canal Zone	----	----	----	----	----	----	----	----	----	----	----	----
Puerto Rico	----	----	458	381	----	----	----	----	----	----	----	----

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 5.—Sand and gravel sold or used by Government-and-contractor producers in the United States, by uses

(Thousand short tons and thousand dollars)

Year	Sand							
	Building		Paving		Fill		Other	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1962	1,759	$3,287	30,163	$21,444	7,482	$3,016	1,267	$605
1963	728	882	33,285	23,840	7,076	3,124	1,433	668
1964	950	1,401	34,262	26,999	6,335	2,935	1,811	882
1965	[r] 316	[r] 328	37,460	29,695	14,824	7,112	2,722	2,038
1966	808	943	37,087	29,702	12,920	8,430	1,663	927

Year	Gravel								Total government-and-contractor sand and gravel	
	Building		Paving		Fill		Other			
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1962	8,626	$11,870	145,602	$113,094	14,125	$5,535	698	$454	209,722	$159,305
1963	4,110	4,091	157,671	132,829	26,379	21,476	497	366	231,179	187,276
1964	3,515	3,946	163,872	139,297	35,870	18,030	772	551	247,387	194,041
1965	[r] 1,297	[r] 1,028	149,111	133,800	45,143	35,410	1,292	1,347	[r] 252,165	[r] 210,758
1966	2,869	3,131	158,709	134,180	39,298	29,268	1,530	1,441	254,884	208,022

[r] Revised.

Table 6.—Sand and gravel sold or used by Government-and-contractor producers in the United States, by types of producer

(Thousand short tons and thousand dollars)

Type of producer	Quantity	Value	Quantity	Value	Quantity	Value
	1957–61 (average)		1962		1963	
Construction and maintenance crews	51,056	$28,688	55,547	$31,216	57,546	$35,945
Contractor	139,916	100,190	154,175	128,089	173,633	151,331
Total	190,972	128,878	209,722	159,305	231,179	187,276
State	114,045	77,216	129,314	95,787	146,053	124,138
Counties	49,084	29,967	49,590	29,656	57,493	39,728
Municipalities	3,720	2,314	3,236	2,679	3,928	3,436
Federal agencies	24,123	19,381	27,582	31,183	23,705	19,974
Total	190,972	128,878	209,722	159,305	231,179	187,276
	1964		1965		1966	
Construction and maintenance crews	64,820	$41,451	62,822	$39,611	67,163	$43,821
Contractor	182,567	152,590	[r] 189,343	[r] 171,147	187,721	164,201
Total	247,387	194,041	[r] 252,165	[r] 210,758	254,884	208,022
State	64,820	$41,451	62,822	$39,611	67,163	$43,821
Counties	60,764	41,151	59,730	40,987	60,966	41,973
Municipalities	3,363	2,500	3,278	2,343	2,916	2,576
Federal agencies	26,124	19,739	29,399	23,141	40,698	31,552
Total	247,387	194,041	[r] 252,165	[r] 210,758	254,884	208,022

[r] Revised.

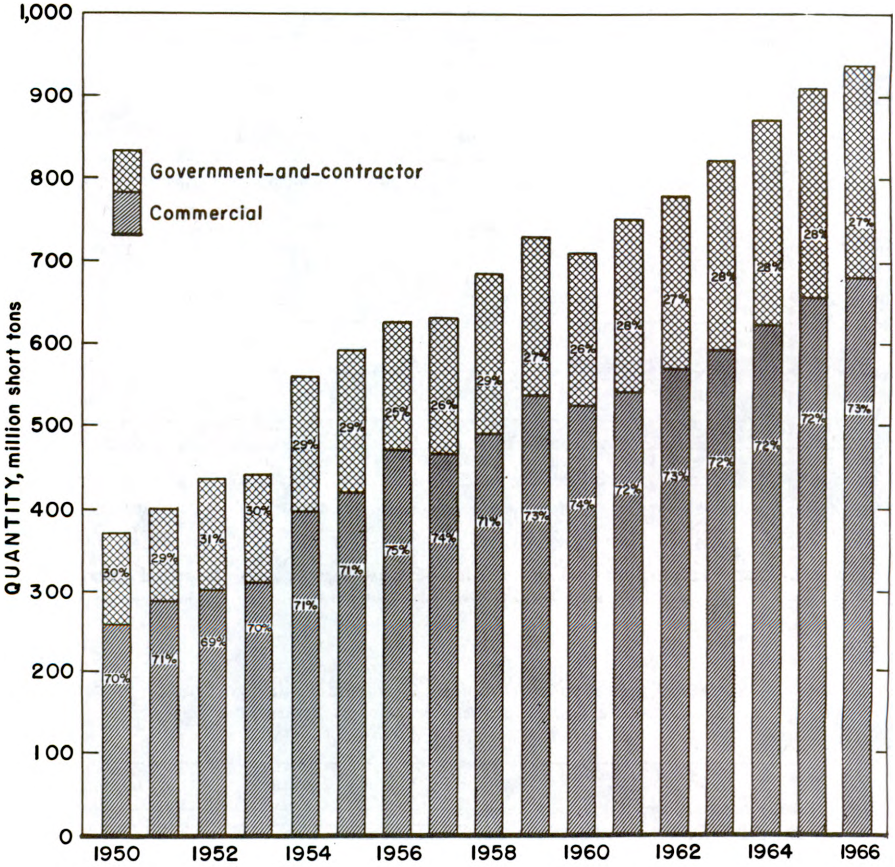

Figure 2.—Sand and gravel sold or used in the United States.

Table 7.—Sand and gravel sold or used by producers in the United States, by classes of operation and degrees of preparation

(Thousand short tons and thousand dollars)

	1965		1966	
	Quantity	Value	Quantity	Value
Commercial operations:				
Prepared	588,091	$704,802	617,180	$738,858
Unprepared	67,793	41,856	62,417	38,102
Total	655,884	746,658	679,597	776,960
Government-and-contractor operations:				
Prepared	r 177,842	r 152,674	187,348	162,442
Unprepared	74,323	58,084	67,536	45,580
Total	r 252,165	r 210,758	254,884	208,022
Grand total	r 908,049	r 957,416	934,481	984,982

r Revised.

Table 8.—Number and production of domestic commercial sand and gravel plants by size of operation

Annual production (short tons)	1965				1966			
	Plants[1]		Production		Plants[1]		Production	
	Number	Percent of total	Thousand short tons	Percent of total	Number	Percent of total	Thousand short tons	Percent of total
Less than 25,000	2,024	36.4	26,272	4.0	2,544	40.8	26,162	3.8
25,000 to 50,000	886	15.9	33,693	5.1	970	15.6	35,259	5.2
59,000 to 100,000	949	17.1	69,424	10.6	957	15.3	69,457	10.2
100,000 to 200,000	813	14.6	115,550	17.6	841	13.5	120,711	17.8
200,000 to 300,000	356	6.4	86,260	13.1	382	6.1	94,052	13.3
300,000 to 400,000	196	3.5	66,844	10.2	190	3.0	65,048	10.1
400,000 to 500,000	95	1.7	40,911	6.2	116	1.9	52,737	7.8
500,000 to 600,000	73	1.3	35,089	5.4	62	1.0	32,929	4.8
600,000 to 700,000	32	.6	20,701	3.2	41	.7	26,945	4.0
700,000 to 800,000	26	.5	19,536	3.0	25	.4	18,979	2.8
800,000 to 900,000	26	.5	22,665	3.5	24	.4	20,658	3.0
900,000 to 1,000,000	15	.3	15,301	2.3	15	.2	14,187	2.1
1,000,000 and over	69	1.2	103,638	15.8	69	1.1	102,473	15.1
Total	5,560	100.0	655,884	100.0	6,236	100.0	679,597	100.0

[1] Includes a few companies operating more than 1 plant but not submitting separate returns for individual plants.

Table 9.—Sand and gravel sold or used in the United States, by classes of operation and method of transportation

	1965		1966	
	Thousand short tons	Percent of total	Thousand short tons	Percent of total
Commercial:				
Truck	556,833	61	590,197	63
Rail	62,759	7	54,240	6
Waterway	33,573	4	32,596	4
Unspecified	2,719	(1)	2,564	(1)
Total commercial	655,884	72	679,597	73
Government-and-contractor: Truck:[2]	[r] 252,165	28	254,884	27
Grand total	[r] 908,049	100	934,481	100

[r] Revised.

[1] Less than 0.5 percent.

[2] Entire output of Government-and-contractor operations assumed to be moved by truck.

Table 10.—Ground sand sold or used by producers in the United States,[1] by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Abrasives	218	$2,072	238	$2,222
Chemicals	34	198	33	326
Enamel	22	262	14	162
Filler	108	814	123	1,230
Foundry uses	293	2,077	181	1,534
Glass	182	943	225	1,183
Pottery, porcelain, and tile	243	2,549	219	2,320
Unspecified	536	2,323	180	1,826
Total	1,636	11,238	1,213	10,803

[1] Arkansas, California, Georgia, Illinois, Indiana, Kansas (1966 only), Louisiana, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota (1966 only), Texas, Utah (1966 only), Virginia, Washington, West Virginia, and Wisconsin (1965 only).

Table 11.—U.S. imports for consumption of sand and gravel by classes

(Thousand short tons and thousand dollars)

Year	Sand				Gravel		Total	
	Glass sand [1]		Sand, n.s.p.f., crude or manufactured					
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	4	[2] $195	334	$469	34	$34	372	$698
1962	31	64	308	415	29	32	368	511
1963	23	69	337	430	(3)	(3)	360	499
1964	40	128	443	558	(3)	(3)	483	686
1965	11	39	678	840	(3)	(3)	689	879
1966	18	95	631	811	(3)	(3)	649	906

[1] Classification reads: "Sand containing 95 percent or more silica and not more than 0.6 percent oxide of iron and suitable for manufacturing glass."

[2] Consists mainly of synthetically prepared silica from West Germany for specialized uses and is not comparable in value to ordinary glass sand.

[3] Sand, n.s.p.f. crude or manufactured and gravel no longer separately classified.

Slag—Iron and Steel

Table 1.—Iron-blast-furnace slag processed in the United States, by types
(Thousand short tons and thousand dollars)

Year	Air-cooled				Granulated		Expanded		Total	
	Screened		Unscreened							
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	21,778	$36,516	1,469	$1,114	3,249	$1,448	2,728	$7,938	29,224	$47,016
1962	18,496	32,680	312	340	2,385	1,258	2,249	6,615	23,442	40,893
1963	18,290	32,408	689	624	2,461	1,663	2,251	6,703	23,691	41,398
1964	20,969	36,458	621	599	2,840	2,170	2,426	7,273	26,856	46,500
1965	22,531	39,624	1,402	1,270	3,550	[1] 2,674	2,596	7,879	30,079	51,447
1966	19,925	35,348	551	588	3,749	[1] 3,026	2,525	7,860	26,750	46,822

[1] Excludes value of slag used for manufacturing hydraulic cement 1965–66; and granulated aggregate for concrete-block manufacturing 1966.

Source: National Slag Association.

Table 2.—Iron-blast-furnace slag processed in the United States, by States
(Thousand short tons and thousand dollars)

Year and State	Screened air-cooled		All types	
	Quantity	Value	Quantity	Value
1965:				
Ohio	5,062	$9,271	6,598	$12,460
Pennsylvania	5,442	10,343	7,633	14,384
Illinois Indiana Michigan	4,995	8,103	7,601	11,291
Other States [1]	7,032	11,907	8,247	13,312
Total	22,531	39,624	30,079	51,447
1966:				
Ohio	4,326	7,960	6,089	11,687
Pennsylvania	5,181	9,737	6,821	12,172
Illinois Indiana Michigan	3,860	6,363	5,983	9,198
Other States [1]	6,558	11,288	7,857	13,765
Total	19,925	35,348	26,750	46,822

[1] Alabama, California, Colorado, Kentucky, Maryland, Minnesota, New York, Texas, Utah, and West Virginia.

Source: National Slag Association.

Table 3.—Shipments of iron-blast-furnace slag in the United States, by methods of transportation

Method of transportation	1965		1966	
	Thousand short tons	Percent of total	Thousand short tons	Percent of total
Rail	6,930	23	7,234	27
Truck	22,508	75	18,734	70
Waterway	641	2	782	3
Total	30,079	100	26,750	100

Source: National Slag Association.

Table 4.—Air-cooled iron-blast-furnace slag sold or used by processors in the United States, by uses

(Thousand short tons and thousand dollars)

Use	Screened			
	1965		1966	
	Quantity	Value	Quantity	Value
Aggregate in—				
Portland-cement concrete construction	3,158	$5,835	3,105	$5,782
Bituminous construction (all types)	4,459	8,008	3,904	6,956
Highway and airport construction [1]	[2] 8,683	[2] 15,425	[2] 7,378	[2] 13,375
Manufacture of concrete block	774	1,502	426	715
Railroad ballast	3,801	5,073	3,512	4,796
Mineral wool	423	766	258	442
Roofing slag—				
Cover material	397	1,164	396	1,227
Granules	45	259	64	379
Sewage trickling filter medium	11	19	15	28
Agricultural slag, liming	2	4	3	6
Other uses	[3] 778	[3] 1,569	[3] 864	[3] 1,642
Total	22,531	39,624	19,925	35,348

[1] Other than in portland-cement concrete and bituminous construction.

[2] In addition 987,000 tons of unscreened air-cooled slag valued at $845,000 in 1965; 479,000 tons valued at $524,000 in 1966.

[3] In addition 415,000 tons of unscreened air-cooled slag valued at $425,000 in 1965; 72,000 tons valued at $64,000 in 1966.

Source: National Slag Association.

Table 5.—Granulated and expanded iron-blast-furnace slag sold or used by processors in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965				1966			
	Granulated		Expanded		Granulated		Expanded	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Highway construction (base and subgrade) [1]	1,394	$1,725	----	----	1,721	$2,380	----	----
Fill (road, etc.)	365	355	----	----	258	220	----	----
Agricultural slag, liming	67	108	----	----	79	121	----	----
Manufacture of hydraulic cement	953	NA	----	----	1,101	NA	----	----
Aggregate for concrete-block manufacture	243	255	2,519	$7,611	208	NA	2,449	$7,593
Other uses	528	231	77	268	382	305	76	267
Total	3,550	[2] 2,674	2,596	7,879	3,749	[2] 3,026	2,525	7,860

NA Not available.

[1] 1965 includes base and subgrade material; 1966 excludes subgrade material.

[2] Excludes value for manufacture of hydraulic cement 1965-66; and granulated aggregate for concrete-block manufacture 1966.

Source: National Slag Association.

Table 6.—Steel slag sold or used by processors in the United States, in 1966 by uses [1]

(Thousand short tons)

Use	Quantity	Use	Quantity
Railroad ballast	675	Agriculture	124
Highway base or shoulders	1,877	Other uses	513
Paved area base	541	Total	4,601
Miscellaneous base or fill	524		
Bituminous mixes	347		

[1] Data represents steel slag processed by members of the National Slag Association. Companies not canvassed include those whose major interest is to reclaim metal from the slag. Data on value not available.

Source: National Slag Association.

Table 7.—Average value of iron-blast-furnace slag sold or used by processors in the United States, by uses

(Per short ton)

Use	Air-cooled				Granulated		Expanded	
	Screened		Unscreened					
	1965	1966	1965	1966	1965	1966	1965	1966
Aggregate in—								
Portland-cement concrete construction	$1.85	$1.86	----	----	----	----	----	----
Bituminous construction (all types)	1.80	1.78	----	----	----	----	----	----
Highway and airport construction [1]	1.78	1.81	$.86	$1.10	[2] $1.24	[2] $1.38	----	----
Manufacture of concrete block	1.94	1.68	----	----	1.05	----	$3.02	$3.10
Railroad ballast	1.33	1.37	----	----	----	----	----	----
Mineral wool	1.81	1.71	----	----	----	----	----	----
Roofing slag—								
Cover material	2.93	3.10	----	----	----	----	----	----
Granules	5.75	5.94	----	----	----	----	----	----
Sewage trickling filter medium	1.70	1.93	----	----	----	----	----	----
Agricultural slag, liming	1.70	1.67	----	----	1.61	1.53	----	----
Fill (road, etc.)	----	----	----	----	.97	.85	----	----
Other uses	2.02	1.90	1.03	.88	.44	.80	3.47	3.49

[1] Other than in portland-cement and bituminous construction.

[2] 1965 includes base and subgrade material; 1966 excludes subgrade material.

Source: National Slag Association.

Sodium and Sodium Compounds

Table 1.—Manufactured sodium carbonate produced and natural sodium carbonates sold or used by producers in the United States

(Thousand short tons and thousand dollars)

Year	Manufactured soda ash (ammonia-soda process) [1] [2]	Natural sodium carbonates [3]	
	Quantity	Quantity	Value
1957–61 (average)	4,592	726	$19,042
1962	4,607	978	24,330
1963	4,682	1,119	27,616
1964	4,948	1,275	30,451
1965	[r] 4,928	1,494	34,717
1966	[p] 5,073	1,738	40,674

[r] Revised. [p] Preliminary.

[1] Bureau of the Census.

[2] Includes quantities used to manufacture caustic soda, sodium bicarbonate, and finished light and dense soda ash.

[3] Soda ash and trona (sesquicarbonate).

Table 2.—Sodium sulfate produced and sold or used by producers in the United States

(Thousand short tons and thousand dollars)

Year	Production (manufactured and natural) [1]			Sold or used by producers (natural only)	
	Salt cake (crude)	Glauber salt (100 percent Na_2SO_4 $10H_2O$)	Anhydrous refined (100 percent Na_2SO_4	Quantity	Value
1957–61 (average)	720	94	295	399	$7,790
1962	[2] 826	([3])	368	458	9,092
1963	[2] 837	([3])	396	435	8,392
1964	[2] 926	([3])	389	575	10,989
1965	[r] [2] 983	([3])	[r] 424	620	11,024
1966	[p] [2] 1,028	([3])	[p] 400	640	11,271

[r] Revised. [p] Preliminary.

[1] Bureau of the Census.

[2] Includes glauber salt converted to 100 percent Na_2SO_4.

[3] Included with salt cake (crude).

Sodium carbonate, sulfate, and metallic sodium prices in 1966 were as follows:

Commodity		*Price*
Sodium carbonate (soda ash 58 percent Na_2O):		
Light, paper bags, carlots, works	per hundred weight	$2.00
Light, bulk, carlots, works	do	1.60
Dense, paper bags, carlots, works	do	1.95
Dense, bulk, carlots, works	do	1.50
Sodium sulfate (100 percent Na_2SO_4):		
Technical, anhydrous, bags, carlots	per ton	[1] 56.00
Technical detergent, rayon grade, bags, carlots, works	do	38.00
Technical detergent, rayon grade, bulk, works	do	34.00
Domestic salt cake, bulk, works	do	28.00
National Formulary (N.F. VII), drums	per pound	.225
Metallic sodium:		
Bricks, lots of 18,000 pounds and more, works	do	.21
Fused, lots of 18,000 pounds and more, works	do	.195
Bulk, tank, works	do	.17

[1] Delivered east of the Mississippi River.

Table 3.—U.S. exports of sodium carbonate and sodium sulfate

(Thousand short tons and thousand dollars)

Year	Sodium carbonate		Sodium sulfate	
	Quantity	Value	Quantity	Value
1957–61 (average)	144	$5,079	26	$876
1962	152	4,693	51	1,486
1963	184	5,722	45	1,379
1964	276	8,535	44	1,320
1965	277	9,030	13	415
1966	346	12,249	28	779

Table 4.—U.S. imports for consumption of sodium sulfate

(Thousand short tons and thousand dollars)

Year	Crude (salt cake)		Anhydrous		Total [1]	
	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	128	$2,667	3	$70	131	$2,737
1962	181	3,646	7	122	188	3,768
1963	159	3,084	1	27	160	3,111
1964	288	5,035	2	29	290	5,064
1965	261	4,521	12	242	273	4,763
1966	223	3,769	13	205	237	3,981

[1] Includes glauber salt as follows: 1958, 12 tons ($830); 1959, 227 tons ($4,839); 1960, 7 tons ($479); 1961–62 none; 1963; 3 tons ($285); 1964, 4 tons ($355); 1965, 1 ton ($262); 1966, 602 tons ($6,981).

Stone

Table 1.—Salient stone statistics in the United States [1]

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
Sold or used by producers:						
Dimension stone	2,398	2,729	2,616	2,545	2,403	2,327
Value	$85,123	$90,687	$96,318	$96,970	$92,235	$89,814
Crushed stone	574,048	654,225	685,750	723,038	[r] 777,839	811,047
Value	$807,674	$935,010	$971,790	$1,037,594	[r] $1,111,596	$1,170,901
Total stone	576,446	656,954	688,366	725,583	[r] 780,242	813,374
Value	$892,797	$1,025,697	$1,068,108	$1,134,564	[r] $1,203,831	$1,260,715
Exports (value)	$6,575	$6,009	$6,102	$6,796	$7,599	$9,442
Imports for consumption (value) [2]	$10,356	$17,204	$18,978	[3] $23,753	[3] $20,414	[3] $20,739

[r] Revised.
[1] Includes slate.
[2] Includes whiting.
[3] Data not comparable with other years.

Table 2.—Stone sold or used by producers in the United States, by States

(Thousand short tons and thousand dollars)

State	1965		1966	
	Quantity	Value	Quantity	Value
Alabama	[1] 17,987	[1] $30,810	[1] 20,744	[1] $36,839
Alaska	W	W	W	W
Arizona	2,474	4,171	2,271	4,091
Arkansas	21,241	26,778	19,109	24,588
California	42,575	59,668	43,051	61,336
Colorado	4,789	8,638	7,031	11,331
Connecticut	5,871	10,444	5,618	10,482
Delaware	180	450	210	525
Florida	35,730	41,148	35,023	38,167
Georgia	23,421	48,265	24,690	48,193
Hawaii	5,172	9,353	5,079	9,482
Idaho	1,831	3,440	2,694	5,415
Illinois	47,066	61,294	46,157	60,961
Indiana	24,574	42,124	24,323	42,474
Iowa	25,891	35,468	27,729	40,081
Kansas	15,270	20,538	14,027	18,789
Kentucky	26,029	34,533	22,667	31,179
Louisiana	[1] 7,452	[1] 10,905	[1] 8,091	[1] 11,258
Maine	1,100	3,409	1,092	3,622
Maryland	14,553	28,432	13,868	27,229
Massachusetts	6,168	16,980	6,424	17,624
Michigan	34,713	36,438	37,864	40,380
Minnesota	4,371	11,680	4,901	11,688
Mississippi	[1] 2,357	[1] 2,358	[1] 1,532	[1] 1,641
Missouri	36,247	53,574	35,240	53,393
Montana	5,512	5,971	4,150	5,212
Nebraska	4,198	6,637	5,055	7,916
Nevada	1,248	2,247	2,002	2,519
New Hampshire	153	1,932	206	2,091
New Jersey	12,232	27,247	12,453	28,056
New Mexico	1,911	3,020	2,652	4,056
New York	30,801	48,675	34,130	54,543
North Carolina	[1] 18,835	[1] 30,920	[1] 22,377	[1] 36,136
North Dakota	356	624	170	305

See footnotes at end of table.

Table 2.—Stone sold or used by producers in the United States, by States—Continued

(Thousand short tons and thousand dollars)

State	1965		1966	
	Quantity	Value	Quantity	Value
Ohio	42,263	$66,969	45,002	$72,900
Oklahoma	16,417	18,071	15,334	17,393
Oregon	21,212	27,301	33,288	48,335
Pennsylvania	56,806	99,627	59,088	99,233
Rhode Island	437	1,119	535	1,734
South Carolina	[1] 5,948	[1] 8,447	8,129	12,510
South Dakota	1,554	5,387	2,186	7,995
Tennessee	[1] 28,888	[1] 38,859	[1] 31,260	[1] 41,432
Texas	39,520	53,659	43,578	56,659
Utah	[r] 2,328	[r] 4,765	2,246	4,269
Vermont	2,591	21,564	2,650	19,926
Virginia	36,350	59,397	34,151	55,550
Washington	12,461	17,446	13,250	20,273
West Virginia	[1] 8,482	[1] 14,587	[1] 9,738	[1] 16,354
Wisconsin	15,344	21,924	16,150	23,735
Wyoming	1,594	2,791	1,393	2,560
Undistributed	5,739	13,747	2,766	8,260
Total	[r] 780,242	[r] 1,203,831	813,374	1,260,715
American Samoa	60	60	12	12
Guam	483	925	900	1,396
Panama Canal Zone	153	366	114	267
Puerto Rico	5,344	9,111	5,732	10,541
Virgin Islands	68	302	88	303
Wake Island	1	4	11	66

[r] Revised.

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] To avoid disclosing individual company confidential data, certain State totals are incomplete, the portion not included being combined with "Undistributed." The class of stone omitted from such State totals is noted in the State tables in the Statistical Summary chapter of this volume.

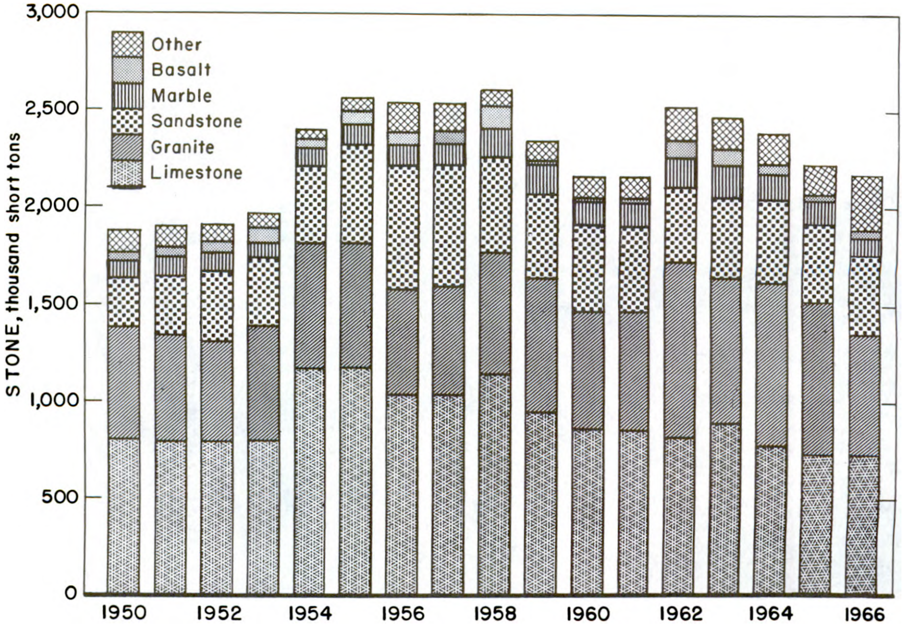

Figure 1.—Sales of dimension stone, except slate, in the U.S. by kinds

Table 3.—Stone sold or used by producers in the United States, by kinds

(Thousand short tons and thousand dollars)

Year	Granite		Basalt and related rocks (traprock)		Marble		Limestone and dolomite		Shell	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	39,594	$81,483	52,168	$81,219	1,592	$29,130	419,586	$580,092	19,026	$31,666
1962	50,058	102,898	69,768	108,264	1,769	33,117	461,849	649,647	20,054	31,241
1963	48,793	103,633	72,958	111,538	1,902	34,567	489,243	680,060	19,019	29,420
1964	56,331	114,465	66,090	108,929	2,093	36,693	511,026	713,675	19,493	30,157
1965	60,028	121,147	75,529	121,278	2,172	38,662	[r] 554,936	[r] 765,927	21,560	34,314
1966	65,888	128,558	88,623	147,594	2,244	36,203	569,577	794,279	21,662	32,783
	Calcareous marl		Sandstone		Slate		Other stone [1]		Total	
1957–61 (average)	1,629	$1,546	20,644	$49,426	591	$10,469	21,616	$27,766	576,446	$892,797
1962	1,182	1,011	26,077	51,119	544	10,100	25,653	38,300	656,954	1,025,697
1963	1,164	989	28,978	58,015	902	11,365	25,407	38,521	688,366	1,068,108
1964	1,043	899	28,169	62,087	1,303	13,695	40,035	53,964	725,583	1,134,564
1965	1,291	1,125	29,097	61,710	1,263	13,697	34,366	45,971	[r] 780,242	[r] 1,208,831
1966	1,358	1,195	27,493	57,037	1,356	13,680	35,173	49,386	813,374	1,260,715

[r] Revised.

[1] Includes mica schist, conglomerate, argillite, various light-colored volcanic rocks, serpentine not used as marble, soapstone sold as dimension stone, etc.

Table 4.—Dimension stone sold or used by producers in the United States, by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building:						
Rough:						
Construction	374	----	$2,766	185	----	$2,071
Architectural [1]	336	4,432	7,511	287	3,854	6,137
Dressed:						
Sawed [1]	435	5,696	17,910	455	5,963	17,335
Cut [2]	198	2,494	25,116	209	2,632	24,410
Rubble	355	----	1,859	528	----	1,879
Roofing (slate)	24	----	1,872	23	----	2,243
Millstock (slate)	28	----	3,871	26	----	3,675
Monumental (rough and dressed) [3]	266	3,221	20,902	252	3,102	22,096
Paving blocks	5	----	109	5	----	158
Curbing	157	1,915	4,708	156	1,901	4,689
Flagging [4]	225	2,699	5,611	201	1,042	5,121
Total	2,403	----	92,235	2,327	----	89,814

[1] Includes stone for refractory use to avoid disclosing individual company confidential data.

[2] Includes a small quantity of stone for precision surface plates and monumental work.

[3] Includes stone for precision surface plates.

[4] Includes a small quantity of slate for miscellaneous uses.

Table 5.—Granite (dimension stone) sold or used by producers in the United States, by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building:						
Rough:						
Construction	223	----	$1,190	55	----	$640
Architectural	26	320	1,183	22	257	1,054
Dressed:						
Construction	16	190	788	12	150	872
Architectural	42	506	8,070	60	726	7,884
Rubble	72	----	305	84	----	387
Monumental: [1]						
Rough	193	2,341	8,376	191	2,370	10,005
Dressed	55	665	8,509	43	520	8,256
Paving blocks	5	----	109	5	----	158
Curbing and flagging	154	1,879	4,605	154	1,870	4,591
Total	786	----	33,135	626	----	33,847

[1] Includes stone for precision plates.

Table 6.—Granite (dimension stone) sold or used by producers in the United States in 1966, by State

State	Active plants	Short tons	Value	State	Active plants	Short tons	Value
California	5	19,125	$653,918	Oklahoma	9	7,221	$687,090
Colorado	4	846	34,525	South Carolina	4	14,610	632,024
Connecticut	5	2,593	57,937	South Dakota	6	23,506	4,066,253
Georgia	34	169,142	3,857,468	Wisconsin	12	9,598	2,018,858
Maine	10	10,126	1,385,859	Other States [1]	39	295,988	14,525,414
Minnesota	16	20,348	3,264,003				
Missouri	1	2,471	253,072	Total	158	625,934	33,847,154
New York	4	18,452	357,527	Puerto Rico	--	9,200	28,800
North Carolina	9	31,908	2,053,206				

[1] Includes plants in Maryland 1; Massachusetts 13; New Hampshire 3; New Mexico 1; Pennsylvania 6; Rhode Island 2; Texas 3; and Vermont 10.

Table 7.—Marble (dimension stone) sold or used by producers in the United States,[1] by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building: [2]						
Rough: Architectural	54	640	$2,001	17	203	$744
Dressed:						
Sawed	25	293	3,035	20	228	1,935
Cut	29	343	8,224	28	328	7,905
Monumental (rough and finished)	18	215	4,017	18	212	3,835
Total	126	----	17,277	83	----	14,419

[1] Produced by the following States in 1966 in order of value and with number of plants: Vermont 5; Georgia 1; Missouri 4; Tennessee 9; Alabama 2; North Carolina 1; Arkansas 2; Montana 2; New Mexico 1; Washington 3; Colorado 1; California 1; Arizona 2; Utah 1; and Nevada 1.

[2] Includes: 1965—854,000 cubic feet, $8,087,000 for exterior use, and 422,000 cubic feet, $5,173,000 for interior use; 1966—346,000 cubic feet, $5,258,000 for exterior use, and 413,000 cubic feet, $5,326,000 for interior use.

Table 8.—Limestone (dimension stone) sold or used by producers in the United States, by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building:						
Rough:						
Construction	66	----	$422	57	----	$364
Architectural	210	2,876	3,387	206	2,838	3,510
Dressed:						
Sawed [1]	222	2,974	6,639	243	3,235	7,130
Cut	75	981	5,951	72	952	6,464
Rubble	137	----	618	129	----	654
Curbing and flagging	22	279	155	21	272	148
Total	732	----	17,172	728	----	18,270

[1] Includes house stone veneer.

Table 9.—Limestone (dimension stone) sold or used by producers in the United States in 1966, by States

State	Active plants	Short tons	Value	State	Active plants	Short tons	Value
Colorado	1	47	$705	New Mexico	1	40	$320
Florida	1	1,600	34,500	Oklahoma	5	3,186	44,490
Illinois	3	4,655	128,748	Texas	4	25,377	439,876
Indiana	18	440,119	11,737,037	Washington	1	70	1,400
Iowa	4	11,939	220,162	Wisconsin	30	106,483	2,065,373
Kansas	7	21,085	647,802	Other States [1]	12	75,278	1,026,933
Michigan	3	4,266	64,166				
Minnesota	5	15,846	1,739,742	Total	102	727,924	18,270,085
Missouri	4	5,150	50,550	Puerto Rico	--	87,860	230,800
Nebraska	3	12,783	68,281				

[1] Includes plants in Alabama 1; California 2; New York 1; Ohio 2; Rhode Island 1; South Dakota 1; Utah 2; Virginia 1; and Wyoming 1.

Table 10.—Limestone sold by producers in the Indiana oolitic limestone district, by classes

Year	Construction					
	Rough blocks		Sawed and semifinished [1]		Cut	
	Thousand cubic feet	Value (thousands)	Thousand cubic feet	Value (thousands)	Thousand cubic feet	Value (thousands)
1957–61 (average)	2,847	$2,944	3,004	$5,440	741	$4,322
1962	2,467	2,695	2,427	4,674	560	3,251
1963	2,183	2,533	2,518	5,217	530	2,258
1964	3,035	3,535	[2] 2,752	[2] 5,770	400	2,624
1965	2,651	3,095	[2] 2,052	[2] 4,503	481	3,091
1966	2,648	3,266	[2] 2,078	[2] 4,721	523	3,547

Year	Construction—Continued			Other uses		Total	
	Total						
	Thousand cubic feet	Thousand short tons	Value (thousands)	Thousand short tons	Value (thousands)	Thousand short tons	Value (thousands)
1957–61 (average)	6,592	478	$12,706	157	439	635	$13,145
1962	5,454	395	10,620	191	659	586	11,279
1963	5,231	379	10,008	197	640	576	10,648
1964	6,187	449	11,929	71	225	520	12,154
1965	5,184	376	10,689	70	224	446	10,913
1966	5,249	380	11,534	[2] 60	[2] 203	440	11,737

[1] Includes house stone veneer.
[2] Includes small quantity produced outside the district.

Table 11.—Sandstone (dimension stone) sold or used by producers in the United States, by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building:						
Rough:						
Construction	67	----	$995	58	----	$918
Architectural [1]	46	596	940	42	556	829
Dressed:						
Sawed [1]	120	1,627	4,319	129	1,749	4,704
Cut	48	616	2,282	44	564	1,644
Rubble	45	----	333	72	----	289
Curbing	3	36	103	2	31	98
Flagging	67	820	1,815	58	714	1,621
Total	396	----	10,787	405	----	10,103

[1] Includes stone for refractory use to avoid disclosing individual company confidential data.

Table 12.—Sandstone (dimension stone) sold or used by producers in the United States in 1966, by States

State	Active plants	Short tons	Value	State	Active plants	Short tons	Value
Arizona	21	7,365	$99,221	Ohio	16	143,068	$5,141,417
Arkansas	5	38,436	217,684	Pennsylvania	33	64,400	1,030,968
California	6	1,671	35,350	Tennessee	8	18,930	496,127
Colorado	22	11,913	222,636	Utah	7	2,286	57,260
Georgia	1	384	11,003	Wisconsin	9	2,927	48,671
Kansas	1	305	5,823	Wyoming	4	944	19,142
Massachusetts	2	1,522	152,192	Other States [1]	36	57,524	971,980
Michigan	4	8,109	53,510				
Missouri	1	1,500	36,000	Total	191	404,686	10,102,834
New Mexico	5	125	2,050				
New York	10	43,277	1,501,800				

[1] Includes plants in Connecticut 3; Indiana 9; Maryland 3; Mississippi 1; Montana 1; Nevada 3; New Jersey 1; South Dakota 3; Texas 2; Virginia 3; Washington 5; and West Virginia 2.

Table 13.—Slate (dimension stone) sold or used by producers in the United States,[1] by uses

Use	1965			1966		
	Quantity			Quantity		
	Thousand short tons	Thousand square feet (unless otherwise specified)	Value (thousands)	Thousand short tons	Thousand square feet (unless otherwise specified)	Value (thousands)
Roofing Slate	24	[2] 63	$1,872	23	[2] 157	$2,243
Millstock:						
Electrical, structural, and sanitary slate	24	2,813	2,803	22	2,581	2,736
Blackboards and bulletin boards [3]	2	895	801	2	736	658
Billiard tabletops	2	236	267	2	230	281
Total	28	3,944	3,871	26	3,547	3,675
Flagstones [4]	74	12,442	1,631	63	10,907	1,494
Miscellaneous uses [5]	56	----	1,902	54	----	1,761
Grand total	182	----	9,276	166	----	9,173

[1] Produced by the following States in 1966 in order of value of output and with number of plants: Virginia 2; Pennsylvania 9; Vermont 21; New York 11; North Carolina 2; California 2; Maine 1; and Utah 1.

[2] Thousand squares.

[3] Includes a small quantity of school slates.

[4] Includes slate used for walkways and stepping stones.

[5] Includes slate for aquarium bottoms, buildings, fireplaces, floorings, headstones, shims, and unspecified uses.

Table 14.—Miscellaneous varieties of dimension stone sold or used by producers in the United States,[1] by uses

Use	1965			1966		
	Thousand short tons	Thousand cubic feet	Value (thousands)	Thousand short tons	Thousand cubic feet	Value (thousands)
Building:						
Sawed [2]	52	612	$3,129	51	601	$2,694
Rubble	97	----	564	226	----	516
Flagging	6	71	108	5	56	97
Total	155	----	3,801	282	----	3,307

[1] Produced by the following States in 1966 in order of value of output and with number of plants: California 19; Maryland 1; Hawaii 3; Pennsylvania 3; Virginia 2; New Mexico 3; Oregon 2; New Jersey 1; Wyoming 1; Washington 3; and Colorado 1.

[2] Includes rough and cut stone and stone for refractory use to avoid disclosing individual company confidential data.

Table 15.—Crushed and broken stone sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Agriculture	28,531	$48,889	30,326	$52,693
Cement	[r] 98,635	[r] 105,167	102,702	109,997
Concrete and roadstone	503,263	690,736	514,324	705,617
Fill	6,505	3,539	17,258	22,926
Filtration	83	281	277	644
Flux	33,025	48,728	33,348	49,913
Glass	2,088	6,559	2,183	6,914
Lime and dead-burned dolomite	26,689	44,290	28,740	49,587
Mineral food	747	3,941	654	3,887
Poultry grit	693	5,376	686	4,913
Railroad ballast	14,023	17,375	14,061	17,045
Refractory	868	6,780	961	8,038
Riprap	38,754	46,038	36,739	48,030
Roofing granules, aggregates, and chips	2,607	14,416	2,205	12,222
Stone sand	3,569	5,258	3,068	4,258
Terrazzo	367	5,183	333	4,738
Other uses [1] and unspecified	17,392	59,040	23,182	69,479
Total	[r] 777,839	[r] 1,111,596	811,047	1,170,901

[r] Revised

[1] Includes some uses listed separately in the sections on limestone and sandstone.

Table 16.—Crushed stone sold or used by Government-and-contractor producers in the United States, by uses [1]

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	44,438	$55,777	43,462	$58,341
Riprap	20,101	20,859	18,130	20,332
Agricultural (limestone)	333	485	168	327
Other uses	6,866	5,828	21,631	29,438
Total	71,738	82,949	83,391	108,438

[1] Figures represent tonnages reported by States, counties, municipalities, and other Government agencies, produced either by themselves or by contractors expressly for their consumption, often with publicly owned equipment; they do not include purchases from commercial producers.

Table 17.—Crushed stone for concrete and roadstone sold or used by producers in the United States, by States

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Alabama	10,975	$12,662	10,981	$13,048
Alaska	W	W	W	W
Arizona	363	732	[1] 210	[1] 471
Arkansas	12,558	16,753	11,718	14,109
California	16,274	21,378	[1] 13,856	[1] 18,662
Colorado	913	1,188	[1] 431	[1] 588
Connecticut	[1] 5,327	[1] 8,526	[1] 4,774	[1] 7,712
Delaware	W	W	W	W
Florida	[1] 30,258	[1] 33,405	[1] 29,515	[1] 30,713
Georgia	[1] 17,272	[1] 24,081	[1] 18,492	[1] 24,989
Hawaii	4,613	8,558	4,536	8,716
Idaho	1,205	1,860	[1] 2,109	[1] 3,004
Illinois	35,399	45,984	34,521	45,381
Indiana	18,170	23,718	17,784	23,055
Iowa	19,622	26,283	19,746	27,899
Kansas	[1] 10,121	[1] 13,772	[1] 9,136	[1] 12,238
Kentucky	19,970	27,346	17,965	24,425
Louisiana	[1] 5,572	[1] 8,181	[1] 6,237	[1] 8,600
Maine	348	700	340	882
Maryland	11,585	20,101	11,087	19,413
Massachusetts	4,901	8,223	5,149	8,855
Michigan	5,614	6,540	6,484	7,754
Minnesota	3,253	4,126	3,960	4,902
Mississippi	W	W	[1] 199	[1] 181
Missouri	[1] 20,681	[1] 28,155	[1] 18,711	[1] 25,524
Montana	4,094	3,487	[1] 2,371	[1] 2,519
Nebraska	1,747	2,962	1,886	3,145
Nevada	277	282	989	761
New Hampshire	W	W	W	W
New Jersey	10,744	21,880	10,389	21,649
New Mexico	1,182	1,786	1,884	2,785
New York	19,941	34,600	22,313	38,432
North Carolina	17,676	27,180	21,132	31,943
North Dakota	59	103	92	170
Ohio	[1] 22,465	[1] 29,747	24,577	32,744
Oklahoma	[1] 12,586	[1] 12,659	11,004	11,587
Oregon	13,293	19,886	[1] 14,275	[1] 20,879
Pennsylvania	31,389	46,597	[1] 34,120	[1] 49,003
Rhode Island	W	W	W	W
South Carolina	5,188	7,231	5,719	8,163
South Dakota	822	1,294	1,235	2,295
Tennessee	23,101	29,087	25,902	32,163
Texas	25,318	30,713	27,218	32,133
Utah	261	513	[1] 30	[1] 68
Vermont	1,106	1,881	2,176	3,504
Virginia	26,945	38,611	24,780	35,475
Washington	8,208	10,488	9,406	13,083
West Virginia	2,533	3,791	[1] 3,047	[1] 4,834
Wisconsin	12,469	12,183	[1] 13,288	[1] 13,935
Wyoming	282	458	269	421
Undistributed	6,583	11,045	8,281	12,805
Total	503,263	690,736	514,324	705,617

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

[1] To avoid disclosing individual company confidential data, total is somewhat incomplete, the portion not included being combined as "Undistributed."

Table 18.—Number and production of commercial crushed-stone plants in the United States, by size of operation

Annual production (short tons)	1965				1966			
	Number of plants	Production		Cumulative total, thousand short tons	Number of plants	Production		Cumulative total, thousand short tons
		Thousand short tons	Percent of total			Thousand short tons	Percent of total	
Less than 25,000	987	8,661	1.2	8,661	996	8,812	1.2	8,812
25,000 to 50,000	325	11,585	1.6	20,246	324	11,823	1.6	20,635
50,000 to 75,000	212	12,997	1.9	33,243	231	14,192	2.0	34,827
75,000 to 100,000	236	21,066	3.0	54,309	203	17,507	2.4	52,334
100,000 to 200,000	[r] 478	[r] 68,611	9.7	[r] 122,920	522	75,009	10.3	127,343
200,000 to 300,000	274	66,544	9.4	[r] 189,464	265	64,553	8.9	191,896
300,000 to 400,000	206	71,483	10.1	[r] 260,947	183	63,028	8.7	254,924
400,000 to 500,000	125	56,211	8.0	[r] 317,158	138	62,206	8.5	317,130
500,000 to 600,000	103	56,234	8.0	[r] 373,392	114	62,099	8.5	379,229
600,000 to 700,000	79	51,362	7.3	[r] 424,754	75	48,064	6.6	427,293
700,000 to 800,000	37	27,625	3.9	[r] 452,379	54	39,890	5.5	467,183
800,000 to 900,000	33	27,585	3.9	[r] 479,964	34	28,301	3.9	495,484
900,000 tons and over	141	226,137	32.0	[r] 706,101	141	232,172	31.9	727,656
Total	[r] 3,236	[r] 706,101	100.0	[r] 706,101	3,280	727,656	100.0	727,656

[r] Revised.

Table 19.—Crushed stone sold or used in the United States, by methods of transportation

Method of transportation	1965		1966	
	Thousand short tons	Percent of total	Thousand short tons	Percent of total
Commercial:				
Truck	501,382	65	517,030	64
Rail	93,992	12	93,299	11
Waterway	62,535	8	64,188	8
Unspecified	[r] 48,192	6	53,139	7
Total commercial	[r] 706,101	91	727,656	90
Government-and-contractor:				
Truck [1]	71,738	9	83,391	10
Grand total	[r] 777,839	100	811,047	100

[r] Revised.

[1] Entire output of Government-and-contractor operations assumed to be moved by truck.

Table 20.—Granite (crushed and broken stone) sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	48,727	$71,259	54,894	$78,088
Railroad ballast	3,036	3,791	2,897	3,811
Riprap	3,812	7,070	2,957	5,121
Fill	462	212	665	343
Stone sand	1,049	930	938	989
Poultry grit	135	1,103	88	829
Other uses [1]	2,021	3,647	2,823	5,530
Total	59,242	88,012	65,262	94,711

[1] Includes stone used for agriculture, roofing granules, and unspecified uses.

Table 21.—Granite (crushed and broken stone) sold or used by producers in the United States in 1966, by States

State	Short tons	Value	State	Short tons	Value
California	4,842,494	$5,201,133	South Carolina	6,301,496	$8,827,501
Colorado	2,788,516	4,322,988	South Dakota	300	600
Delaware	210,000	525,000	Virginia	10,297,660	15,840,491
Georgia	17,596,451	23,687,495	Washington	232,080	351,361
Idaho	548,848	716,640	Wisconsin	835,759	264,990
Minnesota	344,798	682,373	Wyoming	576,765	828,462
Montana	281,529	666,691	Other States [1]	3,819,404	7,721,483
Nevada	799,305	666,883			
New Jersey	1,087,548	2,127,076	Total	65,262,450	94,710,951
North Carolina	14,699,497	22,279,784	Puerto Rico	166,200	391,300

[1] Includes Alaska, Connecticut, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New York, Pennsylvania, Texas, and Vermont

Table 22.—Basalt and related rocks (traprock) (crushed and broken stone) sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	61,582	$101,830	63,465	$104,890
Railroad ballast	1,299	2,064	1,563	2,380
Riprap	6,260	8,617	4,538	9,389
Fill	5,045	2,657	15,677	21,894
Other uses [1]	1,317	5,323	3,343	8,346
Total	75,503	120,491	88,586	146,899

[1] Includes stone used for concrete products, dam construction, filler, filtration, poultry grit, road base (including stabilized), rock wool, roofing granules, and unspecified uses.

Table 23.—Basalt and related rocks (traprock) (crushed and broken stone) sold or used by producers in the United States in 1966, by States

State	Short tons	Value	State	Short tons	Value
Arizona	10,347	$31,226	New Mexico	134,514	$269,022
California	2,217,891	3,202,088	North Carolina	3,205,590	4,715,987
Colorado	44,768	47,895	Oregon	32,310,060	46,640,850
Connecticut	4,891,928	7,850,852	Pennsylvania	4,399,197	9,818,225
Hawaii	3,536,013	7,268,213	Utah	24	286
Idaho	1,679,603	2,615,213	Virginia	2,754,576	4,568,369
Maryland	3,791,691	7,234,036	Washington	11,400,921	16,167,722
Massachusetts	4,101,242	6,752,500	Wyoming	59,150	124,190
Michigan	4,813	6,061	Other States [1]	2,793,971	6,504,431
Minnesota	125,000	250,000			
Montana	370,420	513,922	Total	88,585,778	146,899,406
Nevada	38,000	23,560	Panama Canal Zone	68,307	179,918
New Jersey	10,716,059	22,799,808	Virgin Islands	87,541	303,358

[1] Includes Alaska, New York, Texas, and Wisconsin.

Table 24.—Marble (crushed and broken stone) sold or used by producers in the United States,[1] by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Terrazzo	356	$5,059	317	$4,448
Concrete and roadstone	568	1,962	W	W
Other uses [2]	1,122	14,364	1,844	17,336
Total	2,046	21,385	2,161	21,784

W Withheld to avoid disclosing individual company confidential data; included with "Other uses."

[1] Produced by the following States in 1966, in order of tonnage: Georgia, Alabama, Missouri, Vermont, New York, Tennessee, North Carolina, California, Arizona, Washington, Wyoming, Virginia, Montana, Texas, Maryland, New Jersey, Colorado, Nevada, and Utah.

[2] Includes stone used for acid neutralization, agriculture, asphalt filler, cast stone, poultry grit, roofing chips, stucco, whiting (excluding marble whiting made by companies that purchase marble), and unspecified uses.

Table 25.—Limestone and dolomite (crushed and broken stone) sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	337,770	$440,905	343,864	$449,807
Flux	32,530	46,851	32,788	47,751
Agriculture	28,289	48,586	30,080	52,378
Railroad ballast	6,150	7,596	6,000	7,355
Riprap	13,874	14,723	14,592	16,083
Alkali manufacture	2,671	2,929	2,822	3,131
Cement-portland and natural	[r] 92,280	[r] 96,392	96,231	101,266
Coal-mine dusting	614	2,578	596	2,471
Fill material	703	414	755	565
Filler (not whiting substitute):				
Asphalt	1,512	4,210	1,523	4,364
Fertilizer	515	1,816	485	1,251
Other	266	1,449	407	1,533
Filtration	54	136	236	469
Glass manufacture	1,694	5,262	1,836	5,786
Lime and dead-burned dolomite	26,460	44,250	28,401	49,178
Limestone sand	1,944	3,443	1,743	2,768
Limestone whiting [1]	818	9,818	802	9,861
Mineral food	746	3,935	654	3,887
Paper manufacture	325	973	295	816
Poultry grit	131	1,170	138	1,136
Refractory (dolomite)	235	951	592	4,383
Sugar refining	755	1,875	571	1,331
Other uses [2]	2,171	5,173	2,043	6,422
Use unspecified	1,697	3,320	1,395	2,017
Total	[r] 554,204	[r] 748,755	568,849	776,009

[r] Revised.

[1] Includes stone for filler for abrasives, calcimine, calking compounds, ceramics, chewing gum, fabrics, floor coverings, insecticides, leather goods, paint, paper, phonograph records, plastics, pottery, putty, roofing, rubber, wire coating, and unspecified uses. Excludes limestone whiting made by companies from purchased stone.

[2] Includes stone for acid neutralization, calcium carbide, cast stone, chemicals (unspecified), concrete products, disinfectant and animal sanitation, electrical products, magnesia, magnesium, mineral wool, oil-well drilling, patching plaster, roofing granules, stucco, terrazzo, and water treatment.

Table 26.—Limestone and dolomite (crushed and broken stone) sold or used by producers in the United States in 1966, by States and uses

State	Riprap		Fluxing stone		Concrete and roadstone	
	Short tons	Value	Short tons	Value	Short tons	Value
Alabama	W	W	1,244,050	$2,055,800	10,370,282	$12,753,356
Arizona	-----	-----	206,056	354,953	W	W
Arkansas	W	W	W	W	2,741,895	2,981,460
California	W	W	W	W	W	W
Colorado	W	W	W	W	W	W
Connecticut	-----	-----	W	W	-----	-----
Florida	W	W	-----	-----	29,514,572	30,712,720
Georgia	W	W	W	W	2,809,477	4,097,420
Hawaii	115	$418	-----	-----	357,293	717,327
Idaho	-----	-----	-----	-----	-----	-----
Illinois	645,208	940,726	444,171	640,330	34,520,839	45,381,041
Indiana	159,455	204,971	38,108	55,460	17,784,293	23,054,729
Iowa	990,761	1,435,546	W	W	19,746,360	27,899,441
Kansas	1,202,347	1,175,814	-----	-----	8,826,102	11,618,915
Kentucky	W	W	-----	-----	17,964,878	24,424,998
Maine	-----	-----	-----	-----	W	W
Maryland	W	W	W	W	6,888,565	11,793,233
Massachusetts	W	W	W	W	W	W
Michigan	108,993	172,942	13,391,381	15,789,053	6,478,988	7,747,540
Minnesota	150,760	197,670	W	W	3,705,557	4,377,161
Mississippi	329,010	329,010	-----	-----	199,500	180,700
Missouri	2,721,678	2,048,867	W	W	18,710,704	25,524,553
Montana	W	W	W	W	W	W
Nebraska	1,982,203	2,371,941	-----	-----	1,885,875	3,145,080
Nevada	-----	-----	W	W	W	W
New Jersey	-----	-----	W	W	W	W
New Mexico	W	W	22,316	35,021	874,499	1,295,691
New York	233,767	351,689	26,476	48,847	19,311,139	33,049,443
North Carolina	-----	-----	-----	-----	W	W
Ohio	255,277	366,308	4,850,622	6,926,144	24,523,305	32,685,117
Oklahoma	W	W	-----	-----	10,284,607	10,823,030
Oregon	-----	-----	W	W	W	W
Pennsylvania	W	W	6,300,021	12,063,633	26,607,475	37,394,506
Rhode Island	-----	-----	W	W	-----	-----
South Carolina	-----	-----	W	W	W	W
South Dakota	W	W	-----	-----	404,047	612,919
Tennessee	W	W	W	W	25,901,618	32,162,897
Texas	2,433,241	1,897,978	526,716	664,983	20,283,981	22,614,700
Utah	273	546	W	W	W	W
Vermont	W	W	-----	-----	W	W
Virginia	W	W	967,187	1,506,556	10,577,039	13,941,708
Washington	-----	-----	W	W	W	W
West Virginia	W	W	W	W	3,046,553	4,834,534
Wisconsin	46,479	55,363	W	W	12,356,115	13,428,557
Wyoming	W	W	W	W	W	W
Undistributed	3,332,343	4,533,004	4,770,918	7,609,997	7,188,804	10,554,244
Total	14,591,910	16,082,793	32,788,022	47,750,777	343,864,362	449,807,020
American Samoa	-----	-----	-----	-----	-----	-----
Guam	-----	-----	-----	-----	760,856	1,076,323
Puerto Rico	12,000	8,500	-----	-----	2,079,150	5,349,200
Wake Island	-----	-----	-----	-----	11,638	66,500

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 26.—Limestone and dolomite (crushed and broken stone) sold or used by producers in the United States in 1966, by States and uses—Continued

State	Railroad ballast		Agriculture		Miscellaneous		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Alabama	W	W	666,144	$1,152,891	5,988,996	$6,335,238	18,849,047	$22,967,843
Arizona	-----	-----	W	W	1,359,026	1,829,363	1,590,470	2,261,527
Arkansas	-----	-----	455,341	640,456	1,969,190	2,361,688	5,862,154	6,676,873
California	-----	-----	W	W	13,273,023	20,386,384	15,583,894	23,000,350
Colorado	-----	-----	-----	-----	1,470,053	2,677,605	2,191,410	3,910,198
Connecticut	-----	-----	W	W	W	W	225,502	1,106,192
Florida	W	W	880,381	2,048,052	W	W	33,542,445	35,767,824
Georgia	-----	-----	158,632	250,434	W	W	4,112,891	5,965,058
Hawaii	-----	-----	10,936	38,379	472,511	479,140	840,855	1,235,264
Idaho	-----	-----	-----	-----	W	W	W	W
Illinois	552,280	$580,919	4,923,030	7,318,894	5,066,434	5,962,320	46,151,962	60,824,230
Indiana	382,213	484,193	2,567,124	3,697,232	2,867,557	2,830,669	23,798,750	30,327,254
Iowa	164,160	155,952	2,857,488	4,831,185	W	W	27,717,464	39,861,318
Kansas	W	W	581,979	949,974	W	W	13,481,713	17,238,698
Kentucky	341,078	407,400	1,923,659	2,929,806	W	W	22,666,844	31,178,755
Maine	28,121	44,994	W	W	W	W	864,221	1,514,809
Maryland	W	W	W	W	2,282,373	5,130,747	9,290,472	17,174,363
Massachusetts	-----	-----	181,553	632,912	533,310	2,601,311	841,452	3,455,213
Michigan	W	W	669,004	1,039,560	W	W	37,703,259	40,156,170
Minnesota	44,000	59,650	323,563	517,510	W	W	4,323,027	5,584,633
Mississippi	-----	-----	W	W	W	W	681,895	672,877
Missouri	W	W	3,873,175	6,491,515	8,328,522	14,276,438	33,692,866	48,417,664
Montana	-----	-----	-----	-----	1,145,868	1,416,795	1,260,298	1,602,685
Nebraska	W	W	208,927	358,257	W	W	5,042,356	7,847,442
Nevada	-----	-----	-----	-----	W	W	W	W
New Jersey	-----	-----	W	W	W	W	W	W
New Mexico	-----	-----	-----	-----	W	W	1,478,646	2,088,472
New York	540,273	863,382	515,442	1,857,388	10,033,234	9,587,896	30,660,331	45,758,645
North Carolina	-----	-----	5,840	11,680	W	W	4,380,942	6,445,971
Ohio	1,014,205	1,273,673	2,218,206	4,037,159	11,387,353	20,604,998	44,248,968	65,893,399
Oklahoma	W	W	412,215	638,748	2,238,981	3,191,026	13,335,931	15,096,176
Oregon	-----	-----	-----	-----	W	W	626,892	943,835
Pennsylvania	W	W	1,266,862	3,865,644	15,567,850	21,434,583	50,094,960	75,338,971
Rhode Island	-----	-----	W	W	W	W	W	W
South Carolina	-----	-----	W	W	W	W	1,812,735	3,050,355
South Dakota	170,367	215,268	-----	-----	W	W	1,095,575	1,785,763
Tennessee	W	W	1,906,539	2,300,860	W	W	31,200,158	39,235,161
Texas	W	W	W	W	8,274,678	13,181,395	32,347,769	39,150,460
Utah	W	W	-----	-----	1,071,227	2,281,191	1,943,014	3,573,365
Vermont	-----	-----	W	W	W	W	667,952	3,188,074
Virginia	396,387	539,267	1,139,742	2,023,133	W	W	18,370,044	27,200,619
Washington	-----	-----	17,597	60,689	1,308,863	2,308,428	1,381,175	2,498,064
West Virginia	640,885	839,182	124,955	295,519	2,752,653	4,321,985	8,723,037	14,319,483
Wisconsin	W	W	1,061,591	1,530,668	169,007	378,989	13,717,819	15,426,328
Wyoming	W	W	-----	-----	433,222	974,792	686,066	1,317,073
Undistributed	1,725,590	1,891,622	1,130,436	2,859,420	43,531,198	58,081,910	1,762,082	4,951,494
Total	5,999,559	7,355,502	30,080,361	52,377,965	141,525,129	202,634,891	568,849,343	776,008,948
American Samoa	-----	-----	-----	-----	11,860	11,860	11,860	11,860
Guam	-----	-----	-----	-----	138,993	319,880	899,849	1,396,203
Puerto Rico	-----	-----	72,650	328,300	2,252,629	1,868,500	4,416,429	7,554,500
Wake Island	-----	-----	-----	-----	-----	-----	11,638	66,500

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

Table 27.—Sales of fluxing limestone, by uses

(Thousand short tons and thousand dollars)

Year	Blast furnace		Open-hearth plants		Other smelters [1]		Other metallurgical [2]		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1957–61 (average)	21,657	$31,054	6,810	$9,908	907	$1,160	990	$1,458	30,364	$43,580
1962	16,996	23,062	6,411	9,835	646	952	2,028	2,972	26,081	36,821
1963	18,514	26,456	5,772	8,511	741	1,162	2,158	3,193	27,185	39,322
1964	22,364	31,437	5,625	8,082	1,075	1,278	2,390	3,714	31,454	44,511
1965	23,168	32,980	5,594	8,189	1,167	1,487	2,601	4,195	32,530	46,851
1966	22,835	32,907	5,590	8,132	1,226	1,962	3,137	4,750	32,788	47,751

[1] Includes flux for copper, gold, lead, zinc, and unspecified smelters.
[2] Includes flux for foundries and for cupola and electric furnaces.

Table 28.—Shell sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and road material	15,111	$22,047	14,385	$19,139
Cement	4,938	7,271	4,959	7,094
Lime	329	371	339	409
Poultry grit	422	3,072	460	2,948
Other uses [1]	760	1,553	1,519	3,193
Total	21,560	34,314	21,662	32,783

[1] Includes alkali, whiting, asphalt filler, other filler, mineral food, and unspecified uses.

Table 29.—Shell sold or used by producers in the United States in 1966, by States

State	Short tons	Value	State	Short tons	Value
Alabama	1,367,520	$2,667,018	Louisiana	8,091,318	$11,252,763
Arkansas	24,109	1,039,096	Texas	9,364,618	12,839,355
Florida	1,479,407	2,364,982	Other States [1]	1,335,045	2,620,146
			Total	21,662,017	32,783,360

[1] Includes California, Maryland, Mississippi, New Jersey, Pennsylvania, and Virginia.

Table 30.—Calcareous marl sold or used by producers in the United States,[1] by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Agriculture [2]	219	$150	224	$154
Cement	1,072	975	1,134	1,041
Total	1,291	1,125	1,358	1,195

[1] Produced by the following States in 1966, in order of tonnage: Mississippi, Virginia, Texas, Michigan, Indiana, Minnesota, Wisconsin, and Nevada.
[2] Includes marl used in mineral food.

Table 31.—Sandstone, quartz, and quartzite (crushed and broken stone)[1] sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	18,757	$26,958	17,845	$26,225
Railroad ballast	1,255	1,573	1,160	1,345
Riprap	5,024	5,539	3,189	4,381
Refractory stone (ganister)	533	5,501	369	3,655
Abrasives	81	409	74	356
Ferrosilicon	104	610	80	500
Filtration	22	60	4	17
Flux	495	1,877	560	2,162
Foundry	51	210	24	104
Glass	394	1,297	347	1,128
Other uses[2]	1,985	6,889	3,436	7,061
Total	28,701	50,923	27,088	46,934

[1] Includes ground sandstone, quartz, and quartzite. Friable sandstone is reported in the chapter on sand and gravel.

[2] Includes cement, fill, filler, porcelain, pottery, roofing granules, stone sand, terrazzo, tile, and unspecified uses.

Table 32.—Sandstone, quartz, and quartzite (crushed and broken stone) sold or used by producers in the United States in 1966, by States

State	Short tons	Value	State	Short tons	Value
Arizona	311,079	$784,686	Pennsylvania	2,496,583	$5,435,684
Arkansas	6,998,816	7,401,725	South Dakota	983,607	1,991,491
California	3,567,456	7,044,420	Texas	1,256,627	1,728,825
Colorado	1,651,945	2,220,831	Utah	199,221	390,000
Illinois	800	8,000	Vermont	8,996	19,278
Minnesota	63,467	160,434	Virginia	1,233,521	1,509,653
Montana	271,257	488,115	Washington	122,512	592,344
New Mexico	324,954	490,715	West Virginia	1,015,276	2,034,586
New York	625,911	1,105,907	Wyoming	4,754	10,364
North Carolina	59,300	641,054	Other States[1]	4,351,958	9,619,205
Ohio	559,790	1,784,674			
Oklahoma	630,929	744,860	Total	27,088,256	46,934,345
Oregon	349,497	727,494			

[1] Includes Alabama, Connecticut, Georgia, Idaho, Indiana, Kansas, Maryland, Missouri, Nevada, New Hampshire, Tennessee, and Wisconsin.

Table 33.—Slate (crushed and broken stone) sold or used by producers in the United States,[1] by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Granules[2]	247	$1,747	285	$1,967
Flour	155	904	147	837
Lightweight aggregates	679	1,770	758	1,703
Total	1,081	4,421	1,190	4,507

[1] Produced by the following States in 1966 in order of tonnage: Virginia, Georgia, Pennsylvania, Arkansas, Vermont, and California.

[2] Includes crushed slate used for roadstones and unspecified uses to avoid disclosing individual company confidential data.

Table 34.—Miscellaneous stone (crushed and broken stone) sold or used by producers in the United States, by uses

(Thousand short tons and thousand dollars)

Use	1965		1966	
	Quantity	Value	Quantity	Value
Concrete and roadstone	20,748	$25,775	19,871	$27,468
Railroad ballast	2,283	2,351	2,441	2,154
Riprap	9,784	10,089	11,463	13,056
Fill	200	138	161	124
Other uses [1]	1,196	3,817	955	3,277
Total	34,211	42,170	34,891	46,079

[1] Includes stone used for agriculture, filtration, flux, roofing granules, stone sand, terrazzo, and unspecified uses

Table 35.—Miscellaneous varieties of stone (crushed and broken stone) sold or used by producers in the United States in 1966, by States

State	Short tons	Value
Arizona	330,111	$635,813
Arkansas	6,092,581	8,318,928
California	16,006,953	20,062,755
Colorado	338,158	535,490
Hawaii	687,681	873,972
Montana	1,955,837	1,704,572
New Mexico	703,494	1,029,875
North Dakota	169,633	305,462
Oklahoma	1,356,836	819,886
Pennsylvania	1,568,000	2,081,550
South Dakota	77,800	$137,349
Utah	99,681	177,081
Washington	75,290	81,311
Wyoming	52,553	84,237
Other States [1]	5,376,651	9,231,098
Total	34,890,759	46,079,379
Panama Canal Zone	45,213	86,767
Puerto Rico	975,000	2,117,700

[1] Includes Alaska, Kansas, Louisiana, Maine, Maryland, Massachusetts, Missouri, Nevada, New Hampshire, New Jersey, New York, Rhode Island, Texas, Vermont, and Virginia.

Table 36.—U.S. exports of stone

Year	Building and monumental stone		Crushed, ground, or broken				Other manufactures of stone (value, thousands)
			Limestone		Other		
	Cubic feet (thousands)	Value (thousands)	Short tons (thousands)	Value (thousands)	Short tons (thousands)	Value (thousands)	
1957–61 (average)	411	$1,300	932	$1,683	148	$3,094	$498
1962	535	1,795	621	1,547	115	2,166	501
1963	452	1,669	763	1,753	111	2,095	585
1964	441	2,027	1,370	2,079	106	2,013	677
1965	[1] 264	1,259	1,165	2,905	73	1,955	1,480
1966	NA	1,104	1,207	3,500	276	3,406	1,432

NA Not available.

[1] Beginning January 1, 1965, dolomite separately classified, 253,436 short tons ($2,031,515); 1966, 101,241 short tons ($1,691,699).

Table 37.—U.S. exports of slate, by uses [1]

(Value)

Use	1957–61 (average)	1962	1963	1964	1965	1966
Roofing	$8,395	$15,096	W	W	W	W
Structural, flagging, flooring, granules (1957–59), and flour (1957–61)	104,413	16,321	$20,081	$17,263	$19,711	12,343
Other uses [2]	95,029	84,639	56,228	43,312	56,297	51,298
Total	207,837	116,056	76,309	60,575	76,008	63,641

W Withheld to avoid disclosing individual company confidential data; included with "Other uses."

[1] Figures collected by the Bureau of Mines from shippers of products named.

[2] Includes electrical slate, school slate, blackboards, billiard tabletops, millstock (unspecified), and sculpings.

Table 38.—U.S. imports for consumption of stone and whiting, by classes

Class	1965		1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Granite:				
Monumental, paving and building stone:				
Rough ... cubic feet	166,192	$791	150,647	$818
Dressed, manufactured ... do	101,242	1,265	134,409	1,156
Not manufactured and not suitable for monumental, paving or building stone ... short tons	236	3	457	11
Other, n.s.p.f.	---	63	---	73
Total	---	2,122	---	2,058
Marble, breccia, and onyx:				
In block rough or squared ... cubic feet	68,300	564	49,043	370
Sawed or dressed over 2 inches thick ... do	10,383	82	5,349	32
Slabs and paving tiles ... superficial feet	7,173,148	6,450	8,402,099	6,541
All other manufactures	---	4,417	---	4,062
Total	---	11,513	---	11,005
Travertine stone:				
Rough, unmanufactured ... cubic feet	62,214	202	58,600	163
Dressed, suitable for monumental, paving and building stone ... short tons	30,926	1,149	31,575	1,338
Other, n.s.p.f.	---	158	---	112
Total	---	1,509	---	1,613
Limestone:				
Monumental, paving and building stone:				
Rough ... cubic feet	900	3	800	(1)
Dressed, manufactured ... short tons	1,560	32	3,190	69
Crude, not suitable for monumental, paving or building stone ... short tons	624,983	729	251,955	351
Other, n.s.p.f.	---	34	---	53
Total	---	798	---	473
Slate:				
Roofing ... square feet	5,167	1	5,166	1
Other, n.s.p.f.	---	1,319	---	1,478
Total	---	1,320	---	1,479
Quartzite ... short tons	84,230	366	151,869	588
Stone and articles of stone, n.s.p.f.:				
Statuary and sculptures	---	411	---	363
Stone, unmanufactured ... short tons	13,099	21	3,760	75
Building stone, rough ... cubic feet	4,574	6	6,384	11
Building stone, dressed ... short tons	1,029	39	40	3
Other	---	127	---	28
Total	---	604	---	480
Stone, chips, spalls, crushed or ground:				
Marble, breccia and onyx chips ... short tons	17,235	196	10,611	117
Limestone, chips and spalls, crushed or ground ... do	477,028	777	929,817	1,263
Stone chips and spalls and stone crushed or ground, n.s.p.f. ... do	898,389	897	1,408,153	1,318
Slate chips and spalls and crushed and ground ... do	---	---	15	1
Total ... do	1,392,652	1,870	2,348,596	2,699
Whiting:				
Whiting, dry, ground, or bolted ... short tons	[2] 9,775	[2] 148	10,408	179
Chalk whiting, precipitated ... do	[2] 2,250	[2] 164	2,225	165
Chalk, whiting putty ... do	1	(1)	(1)	(1)
Total ... do	12,026	312	12,633	344
Grand total	---	20,414	---	20,739

[1] Less than ½ unit.
[2] Revised due to printing error.

Strontium Minerals

Table 1.—U.S. imports for consumption of strontium minerals,[1] by countries

Country	1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)
Italy	6	$1	11	3
Mexico	3,224	44	6,434	117
Spain	1,629	36	---	---
United Kingdom	4,882	140	5,072	147
Total	9,741	221	11,517	267

[1] Strontianite or mineral strontium carbonate and celestite or mineral strontium sulfate.

Table 2.—Free world production of strontium minerals, by countries [1]
(Short tons)

Country	1962	1963	1964	1965	1966 p
Argentina	NA	595	33	r 659	NA
Italy	r 661	721	504	705	659
Mexico [2]	4,554	6,476	5,278	3,224	6,434
Pakistan	323	424	r 297	r 497	590
United Kingdom	7,316	10,102	19,077	r 10,695	[2] 5,066
Free world total	r 12,854	18,318	r 25,189	r 15,780	12,749

p Preliminary. r Revised. NA Not available.

[1] Strontium minerals are produced in West Germany, Poland, and the U.S.S.R., but data on production are not available; no estimates for these countries are included in the total.

[2] U.S. imports.

Sulfur and Pyrites

Table 1.—Salient sulfur statistics

(Long tons, sulfur content)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production	5,075,741	5,025,418	4,881,927	5,228,365	6,116,273	7,001,360
All forms	6,629,163	6,757,211	6,643,802	7,092,734	8,211,767	9,152,903
Exports, sulfur	1,642,660	1,553,986	1,612,637	1,928,092	2,651,735	2,373,000
Imports, pyrites, and sulfur	810,326	1,185,073	1,444,000	1,582,211	1,646,000	1,674,000
Stocks Dec. 31: Producer, Frasch and recovered sulfur	4,347,985	4,934,238	4,682,496	4,226,524	3,425,161	2,704,349
Consumption, apparent, all forms [1]	5,697,720	6,243,600	6,607,000	7,259,711	7,980,010	9,157,822
World: Production:						
Sulfur, elemental	9,602,000	12,030,000	12,600,000	13,950,000	15,360,000	16,440,000
Pyrites	8,210,000	8,900,000	8,900,000	9,200,000	9,600,000	9,700,000

[1] Measured by quantity sold, plus import, minus exports.

Table 2.—Production of sulfur and sulfur-containing raw materials by producers in the United States

(Long tons)

	1964		1965		1966	
	Gross weight	Sulfur content	Gross weight	Sulfur content	Gross weight	Sulfur content
Native sulfur or sulfure or:						
Frasch-process mines	5,228,207	5,228,207	6,116,273	6,116,273	7,001,360	7,001,360
Other mines	794	158	2,592	(1)	(1)	(1)
Total	-----	5,228,365	-----	6,116,273	-----	7,001,360
Recovered elemental sulfur:						
Brimstone	1,024,649	1,021,358	1,219,312	1,215,168	1,241,566	1,237,994
Paste	-----	-----	-----	-----	-----	-----
Total	-----	1,021,358	-----	1,215,168	-----	1,237,994
Pyrites	847,493	353,831	874,957	353,645	872,414	355,512
Byproduct sulfuric acid (basis 100 percent) produced at Cu, Zn, and Pb plants	1,119,976	365,706	1,330,912	388,021	1,452,896	424,178
Other byproduct sulfur compounds [2]	143,689	123,474	162,668	138,660	161,962	133,859
Total	-----	7,092,734	-----	8,211,767	-----	9,152,903

[1] Less than ½ unit—not included in total.

[2] Hydrogen sulfide and liquid sulfur dioxide. (In addition, a quantity of acid sludge is converted to H_2SO_4 but it is excluded from the above figures.)

Table 3.—Sulfur production and shipments from Frasch mines in the United States

Year	Production (long tons)			Shipments	
	Texas	Louisiana	Total	Long tons	Approximate value (thousands)
1957–61 (average)	2,785,909	2,217,390	5,003,299	4,997,338	$117,468
1962	2,621,974	2,362,604	4,984,578	4,917,466	107,069
1963	2,412,653	2,468,859	4,881,512	4,995,023	99,014
1964	2,488,975	2,739,232	5,228,207	6,035,670	120,777
1965	2,534,045	3,582,228	6,116,273	7,250,907	[r] 164,654
1966	2,916,479	4,084,881	7,001,360	7,720,927	201,292

[r] Revised.

Table 4.—Sulfur ore (10 to 70 percent S) production and shipments in the United States [1]

Year	Production (long tons)	Shipments	
		Long tons	Value (thousands)
1957–61 (average)	278,696	167,329	$1,574
1962	162,186	150,550	1,439
1963	1,371	1,371	15
1964	794	794	8
1965	2,592	2,852	11
1966	557	557	5

[1] California, Nevada, and Utah.

Table 5.—Recovered sulfur production and shipments in the United States

(Long tons)

Year	Production		Shipments		
	Gross weight	Sulfur content	Gross weight	Sulfur content	Value (thousands)
1957–61 (average)	694,609	692,309	676,040	673,793	$16,500
1962	902,124	899,598	909,964	907,340	19,599
1963	949,567	946,753	932,147	929,369	19,401
1964	1,024,649	1,021,358	993,643	990,437	21,088
1965	1,219,312	1,215,168	1,172,840	1,168,831	24,574
1966	1,241,566	1,237,994	1,262,118	1,258,462	30,081

Table 6.—Production and shipments of pyrites (ores and concentrates in the United States)

(Long tons)

Year	Production			Shipments		
	Gross weight	Sulfur content	Value (thousands)	Gross weight	Sulfur content	Value (thousands)
1957–61 (average)	1,020,340	418,198	$8,115	129,376	62,183	$870
1962	915,890	379,046	6,809	64,476	31,382	359
1963	824,800	343,566	5,698	72,618	33,449	303
1964	847,493	353,831	5,471	49,829	23,832	239
1965	874,957	353,645	5,333	57,184	27,278	272
1966	872,414	355,592	5,088	52,481	25,122	205

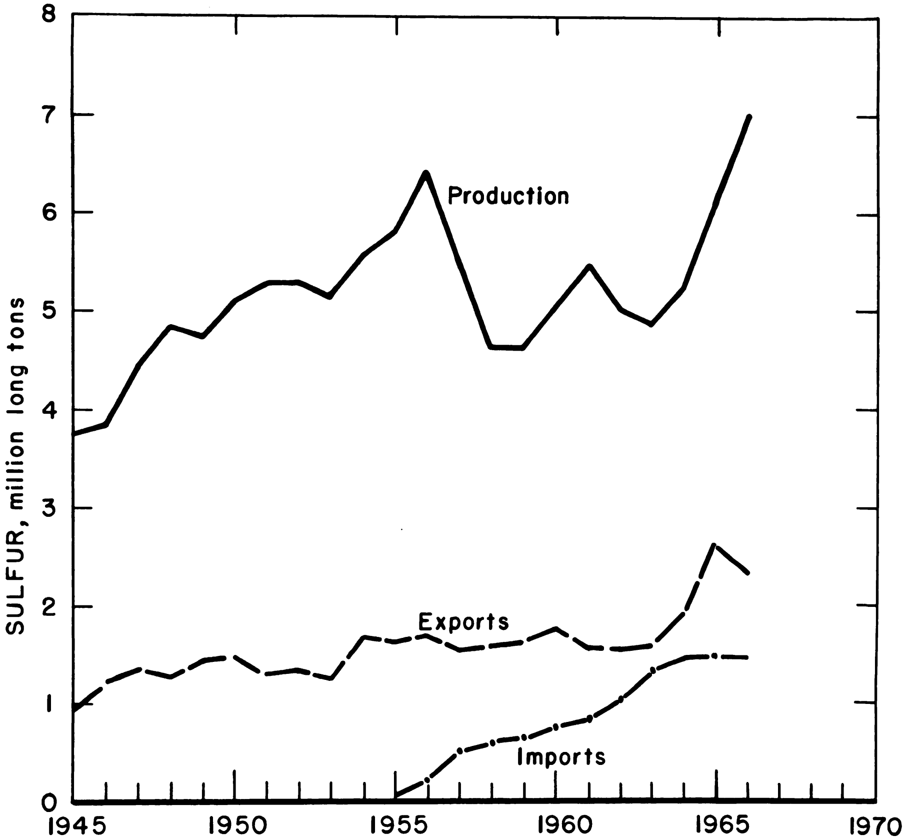

Figure 1.—Domestic production, imports, and exports of native sulfur.

Table 7.—Byproduct sulfuric acid [1] (basis, 100 percent) produced at copper, zinc, and lead plants in the United States

(Short tons)

Plants	1957-61 (average)	1962	1963	1964	1965	1966
Copper [2]	407,139	403,683	358,503	330,273	369,321	469,728
Zinc	788,860	815,322	861,763	924,100	961,591	983,118
Total	1,195,999	1,219,005	1,220,266	1,254,373	1,330,912	1,452,846

[1] Includes acid from foreign materials.

[2] Includes acid produced at a lead smelter.

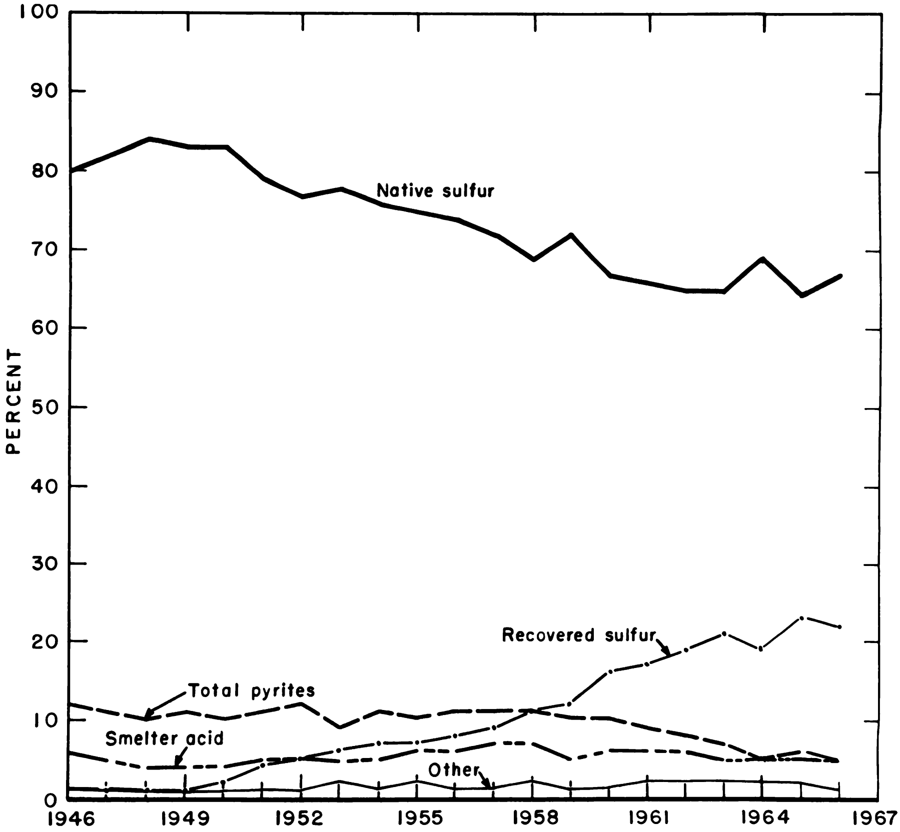

Figure 2.—Sulfur supply sources as a percent of total apparent consumption based on sulfur content.

Table 8.—Apparent consumption of native sulfur in the United States
(Long tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Apparent sales to consumers [1]	4,992,728	4,873,021	5,050,923	5,775,399	6,938,147	7,687,389
Imports	597,744	745,772	863,385	890,604	r 831,000	799,000
Total	5,590,472	5,618,793	5,914,308	6,666,003	r 7,769,147	8,486,389
Exports:						
Crude	1,625,899	1,537,419	1,603,438	1,920,392	2,624,052	2,326,000
Refined	16,761	16,567	9,199	7,700	27,683	47,000
Total	1,642,660	1,553,986	1,612,637	1,928,092	2,651,735	2,373,000
Apparent consumption	3,947,812	4,064,807	4,301,671	4,737,911	r 5,117,412	6,113,389

r Revised.

[1] Production adjusted for net change in stocks during year.

Table 9.—Apparent consumption of sulfur in all forms in the United States

(Long tons)

	1957–61 (average)	1962	1963	1964	1965	1966
Native sulfur	3,947,820	4,064,800	4,301,700	4,737,911	[r] 5,117,412	6,113,389
Recovered sulfur:						
Sales	675,760	907,300	929,400	987,600	1,166,716	1,255,807
Imports	63,340	294,700	487,800	571,200	655,556	715,077
Pyrites:						
Domestic production	418,200	379,000	343,600	353,800	353,645	355,512
Imports	149,740	144,600	93,000	120,000	160,000	160,000
Total pyrites	567,940	523,600	436,600	473,800	513,645	515,512
Smelter-acid production	348,760	355,400	335,700	365,700	388,021	424,178
Other production [1]	94,100	97,800	115,800	123,500	138,660	133,859
Grand total	5,697,720	6,243,600	6,607,000	7,259,711	[r] 7,980,010	9,157,822

[r] Revised.

[1] Hydrogen sulfide and liquid sulfur dioxide. In addition, a quantity of acid sludge is converted to H_2SO_4 but is excluded from the above figure.

Table 10.—U.S. exports and imports for consumption of sulfur

(Thousand long tons and thousand dollars)

Year	Exports				Imports	
	Crude		Crushed, ground refined, sublimed, and flowers		Quantity	Value
	Quantity	Value	Quantity	Value		
1957–61 (average)	1,626	$39,934	17	$1,616	661	$14,458
1962	1,537	35,496	17	1,799	1,040	20,310
1963	1,603	33,531	9	1,057	1,351	23,942
1964	1,920	39,651	8	1,287	1,462	26,100
1965	2,624	64,278	[r] 11	1,271	[r] 1,486	[r] 27,298
1966	2,326	78,759	47	3,404	1,514	33,525

[r] Revised.

Table 11.—U.S. exports of sulfur by countries

Destination	Crude				Crushed, ground, refined, sublimed and flowers			
	1965		1966		1965		1966	
	Thousand long tons	Value (thousands)	Thousand long tons	Value (thousands)	Long tons	Value (thousands)	Long tons	Value (thousands)
North America:								
Canada	145	$3,755	136	$3,900	[r]2,259	$241	3,360	$337
Central America	2	79	4	159	[r]554	54	340	38
Mexico	(1)	1	(1)	(1)	[r]418	86	793	86
West Indies	21	495	23	812	20	1	29	3
Total	168	4,330	163	4,871	[r]3,251	382	4,525	464
South America:								
Argentina	48	1,162	34	1,151	[r]100	47	272	37
Brazil	174	4,166	172	6,040	[r]543	96	1,083	161
Chile	14	349	8	283	[r]985	56	984	57
Peru	11	289	13	417	[r]87	28	380	49
Uruguay	9	207	11	370	[r]21	4	45	12
Venezuela	2	58	2	60	[r]328	47	455	52
Other	(1)	11	(1)	14	[r]154	44	543	46
Total	258	6,242	240	8,335	[r]2,218	322	3,762	414
Europe:								
Austria	43	1,068	42	1,492	---	---	---	---
Belgium-Luxembourg	6	152	8	270	4	1	17	7
Czechoslovakia	34	798	17	539	---	---	---	---
France	112	2,654	49	1,671	[r]112	16	291	26
Germany, West	150	3,625	153	5,564	[r]66	5	221	76
Ireland	45	1,143	46	1,615	---	---	---	---
Italy	33	783	21	857	(1)	(1)	1,075	61
Netherlands	645	15,519	641	22,053	14	1	3	1
Norway	4	99	1	33	38	2	54	4
Spain	4	101	10	326	[r]75	33	30	14
Sweden	7	175	1	49	[r]7	[r]5	17	1
Switzerland	40	992	31	1,131	4	1	---	---
United Kingdom	295	7,263	211	6,445	5	[r]2	185	17
Other	15	346	15	530	5	2	3	1
Total	1,433	34,718	1,246	42,575	[r]332	68	1,896	208
Africa:								
Morocco	25	629	---	---	---	---	---	---
South Africa, Republic of	23	660	68	1,976	[r]436	71	652	82
Tunisia	54	1,370	46	1,630	---	---	---	---
Other	7	169	3	108	50	4	17	6
Total	109	2,828	117	3,714	[r]486	75	669	88
Asia:								
India	275	6,739	180	6,178	[r]2,081	[r]163	25,503	1,568
Indonesia	1	19	4	158	[r]13	2	500	18
Iraq	(1)	18	---	---	100	4	300	16
Israel	48	1,141	48	1,669	[r]72	12	97	11
Jordan	(1)	18	---	---	176	8	47	5
Korea, South	10	407	1	78	---	---	69	6
Lebanon	22	594	---	---	89	4	---	---
Philippines	1	16	(1)	8	[r]246	44	308	32
Saudi Arabia	1	34	2	97	[r]438	[r]18	309	17
Taiwan	49	1,198	22	779	[r]2	1	2,004	121
Other	6	161	10	366	769	72	579	46
Total	413	10,345	267	9,333	[r]3,986	328	29,716	1,840
Oceania:								
Australia	141	3,434	164	5,609	[r]462	63	6,448	353
New Zealand	102	2,381	129	4,322	[r]126	33	323	37
Total	243	5,815	293	9,931	[r]588	96	6,771	390
Grand total	2,624	64,278	2,326	78,759	[r]10,861	1,271	47,339	3,404

[r] Revised.
[1] Less than ½ unit.

Table 12.—U.S. imports for consumption of sulfur, by countries

(Thousand long tons and thousand dollars)

Country	1965		1966	
	Quantity	Value	Quantity	Value
North America:				
Bahamas	---	---	11	$293
Canada	655	$8,934	703	12,084
Canal Zone	---	---	1	10
Mexico	[r] 831	[r] 18,357	799	21,117
Europe:				
Germany, West	(1)	3	(1)	20
United Kingdom	---	---	(1)	1
Asia: Japan	(1)	4	---	---
Total	[r] 1,486	[r] 27,298	1,514	33,525

[r] Revised.
[1] Less than ½ unit.

Table 13.—World production of elemental sulfur, by countries

(Long tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Native sulfur:					
Frasch:					
Mexico	1,350,375	1,456,656	1,635,773	1,481,241	1,611,446
United States	[r] 5,025,418	[r] 4,881,927	[r] 5,228,365	6,116,273	7,001,360
Total	[r] 6,375,793	[r] 6,338,583	[r] 6,864,138	7,597,514	8,612,806
From sulfur ores:					
Argentina	22,303	22,338	21,955	[r] 23,391	[e] 20,000
Bolivia (exports)	7,247	9,793	10,635	9,306	56,554
Canary Islands	5,905	6,889	[e] 6,900	[e] [r] 6,900	[e] 6,900
Chile	[r] 74,713	56,405	58,613	[r] 44,893	52,065
China, mainland [e]	120,000	120,000	120,000	120,000	120,000
Colombia	10,046	12,795	11,942	18,114	20,649
Ecuador	NA	163	232	150	123
Indonesia	917	1,033	1,668	3,517	[e] 3,940
Italy	53,454	41,128	28,472	35,654	13,834
Japan [2]	220,438	219,095	237,413	[r] 209,881	226,087
Mexico	26,751	28,968	25,989	33,800	29,322
Philippines	[r] 51	47	68	[r] 47	14
Poland	206,684	231,486	289,948	424,195	468,976
Taiwan	7,462	7,144	6,389	4,424	4,522
Turkey	18,247	19,123	21,849	[r] 21,947	22,292
U.S.S.R. [e]	950,000	950,000	950,000	1,000,000	1,000,000
United Arab Republic (Egypt)	[e] 5,900	[e] 490	-----	-----	-----
United States	40,840	415	158	133	143
Total [e] [3]	1,770,000	[r] 1,730,000	1,790,000	[r] 1,955,000	2,045,000
Total native sulfur	[r] 8,150,000	[r] 8,070,000	8,650,000	9,550,000	10,660,000
Other elemental:					
Recovered:					
Austria [4]	-----	-----	5,905	[e] 6,000	[e] 6,000
Bulgaria [5]	5,502	6,291	6,720	[r] 9,961	[e] 11,000
Canada (sales) [6]	620,622	1,115,968	1,596,574	[r] 1,846,778	1,768,493
China, mainland [e] [4] [5]	130,000	130,000	130,000	130,000	130,000
Finland	-----	37,611	67,063	72,606	72,478
France [7]	1,325,538	1,386,285	1,486,846	[r] 1,497,180	1,495,015
Germany:					
East	[r] 118,560	[r] 117,981	[r] 123,081	[r] 122,836	[e] 125,000
West	89,268	84,949	76,602	75,412	82,477
Hungary	3,576	2,938	3,050	3,396	[e] 3,500
Iran [e] [4]	15,000	20,000	103,000	108,000	108,000
Italy	2,067	1,279	787	[r] 2,461	[e] 2,500
Japan [4]	8,549	11,429	18,499	[r] 35,988	52,187
Mexico [7]	46,545	43,308	[r] 36,284	[r] 45,984	38,160
Netherlands [5]	30,511	[r] 34,447	28,444	[r] 26,475	[e] 27,000
Netherlands Antilles:					
Aruba and Curacao [e]	[r] 30,500	[r] 34,400	[r] 28,500	30,000	30,000
Norway [5]	45,175	-----	-----	-----	-----
Portugal [5]	6,677	2,953	-----	-----	-----
South Africa, Republic of [4]	1,913	1,981	5,701	7,102	5,714
Spain [5]	41,836	68,036	75,452	[e] [r] 76,000	[e] 75,000
Sweden [8]	[r] 29,920	25,885	[r] 27,009	[r] 20,964	[e] 22,000
Taiwan [4]	2,130	2,310	2,780	2,348	2,337
Trinidad [4]	[r] 7,157	[r] 6,629	[r] 5,322	[r] 3,723	4,010
U.S.S.R. [e]	370,000	400,000	400,000	420,000	420,000
United Arab Republic (Egypt)	2,039	[r] 2,355	2,427	3,648	11,490
United Kingdom [9]	51,929	46,529	53,701	[r] 47,992	[e] 48,000
United States	899,598	946,753	1,021,358	1,215,168	1,237,994
Total other elemental [e]	3,880,000	4,530,000	5,300,000	5,810,000	5,780,000
World total [e]	[r] 12,030,000	[r] 12,600,000	13,950,000	[r] 15,360,000	16,440,000

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available July 1967.

[2] Includes sulfur from mined sulfur-sulfide ore.

[3] In some years Iran produces mine sulfur equivalent to 250–1,500 tons of sulfur. No estimates in total.

[4] From refinery gases.

[5] From sulfide ore.

[6] Produced from natural gas, includes a small quantity derived from treatment of nickel-sulfide matte at Fort Colborne, Ontario.

[7] From natural gas.

[8] From shale oil.

[9] Including sulfur recovered from petroleum refineries.

Table 14.—World production of pyrites (including cupreous pyrites) [1]
(Thousand long tons)

Country	1964		1965		1966 [p] [2]	
	Gross weight	Sulfur content	Gross weight	Sulfur content	Gross weight	Sulfur content
North America:						
Canada (sales)	314	157	315	[e] [r] 167	289	[e] 145
Cuba [e]	30	13	30	13	30	13
United States	847	354	875	354	873	355
Europe:						
Bulgaria	[r] 145	[r] 61	[r] 151	[r] 63	[e] 157	[e] 66
Czechoslovakia	355	140	[e] 364	[e] 140	[e] 364	[e] 140
Finland	539	258	573	278	508	[e] 260
France	188	78	[r] 132	[r] 56	87	37
Germany:						
East	[e] 120	41	[e] [r] 120	[r] 43	[e] 120	[e] 41
West	417	184	432	[r] 194	443	203
Greece	138	[e] 62	[e] 150	[e] [r] 67	183	[e] 60
Italy	1,373	618	[r] 1,379	[e] [r] 607	1,284	578
Norway	[r] 708	[r] 317	698	335	663	[e] 320
Poland	230	87	[e] 235	[e] 90	[e] 235	[e] 90
Portugal	598	275	[r] 604	[r] 279	549	253
Rumania	403	160	[e] 405	[e] 160	[e] 345	[e] 140
Spain	2,355	1,117	[r] 2,347	[r] 1,111	2,350	1,112
Sweden	[r] 445	[r] 228	[r] 434	[r] 217	[e] 430	[e] 220
U.S.S.R. [e]	3,150	1,670	3,250	1,720	3,250	1,720
United Kingdom	[e] 26	[e] 10	NA	NA	NA	NA
Yugoslavia	421	168	[r] 400	160	372	149
Africa:						
Algeria	60	28	56	26	[e] 50	[e] 25
Morocco	21	6	18	5	15	4
Rhodesia, Southern	81	30	[e] 81	[e] 30	NA	NA
South Africa, Republic of	426	[r] 161	422	[e] 170	474	[e] 189
Asia:						
China, mainland [e]	1,280	575	1,480	665	1,480	665
Cyprus [3]	[r] 674	[r] 324	[r] 978	[e] [r] 475	972	474
Japan [4]	4,081	1,743	4,255	[r] 1,808	4,672	1,985
Korea:						
North [e]	415	167	445	177	445	177
South	(5)	(5)	(5)	(5)	4	1
Philippines	43	21	104	[r] 48	113	51
Taiwan	46	17	39	16	41	17
Turkey	111	51	130	60	171	81
Oceania: Australia	[r] 220	[r] 95	[r] 204	[r] 89	244	108
World total [e]	[r] 20,250	9,200	21,100	9,600	21,150	9,700

[e] Estimate. [p] Preliminary. [r] Revised. NA Not Available.

[1] Brazil produces pyrites, but production data are not available; no estimate is included in the total.

[2] Compiled mostly from data available June 1967.

[3] Tons of ore mined containing pyrites: 1962, 1,860 tons; 1963, 665 tons; 1964, 1,631; 1965, 2,084; 1966, NA.

[4] Years 1962–63 include pyrrhotite, cupreous pyrites, sulfur ore, and zinc concentrates. Pyrite data covering pyrites, cupreous pyrites, and pyrrhotite only are as follows: (in thousand long tons) 1962, 2,977 tons; 1963, 2,954 tons; 1964, 3,131 tons; 1965, 3,330; and 1966, NA.

[5] Less than ½ unit.

Table 15.—Mexico: Exports of sulfur, by countries

(Long tons)

Destination	1965	1966
North America: United States	848,297	818,329
South America:		
Brazil	14,739	4,000
Chile	-----	10,169
Colombia	3,000	-----
Europe:		
Belgium	42,608	4,400
France	92,403	95,055
Netherlands	87,853	46,409
United Kingdom	156,301	238,143
Africa:		
Morocco	9,846	-----
South Africa, Republic of	49,414	10,002
Tunisia	63,874	51,891
United Arab Republic (Egypt)	-----	14,994
Asia:		
India	-----	20,549
Israel	10,499	-----
Taiwan	11,614	9,842
Oceania:		
Australia	112,344	101,554
New Zealand	28,478	60,465
Total	1,531,270	1,485,802

Source: Compiled from U.S. Embassy, Mexico, D.F., Mexico, Department of State Airgram 987, dated Mar. 29, 1966, p. 2; and Airgram 1077, Apr. 27, 1967, p. 2.

Talc, Soapstone and Pyrophyllite

Table 1.—Salient talc, soapstone, and pyrophyllite statistics

(Thousand short tons and thousand dollars)

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Mine production	738	772	804	890	863	895
Value	$5,162	$5,278	$5,505	$6,218	$6,343	$6,479
Sold by producers	724	777	794	875	838	791
Value	$15,556	$17,882	$18,420	$19,233	$19,794	$19,029
Exports [1]	53	47	57	74	70	70
Value [1]	$1,624	$2,230	$2,778	$3,391	$3,486	$3,917
Imports for consumption	24	26	26	23	21	21
Value	$850	$1,069	$1,088	$917	$833	$834
World: Production	2,588	3,050	3,410	3,870	3,920	4,040

[1] Excludes powders—talcum (in package), face, and compact.

Table 2.—Crude talc, soapstone, and pyrophyllite produced in the United States, by States

(Short tons and thousand dollars)

State	1965		1966	
	Quantity	Value	Quantity	Value
California	141,074	$1,725	138,340	$1,847
Georgia	44,800	313	41,000	255
Nevada	3,592	31	4,715	24
North Carolina	109,721	556	113,366	576
Texas	64,211	204	102,399	367
Virginia	3,549	9	3,989	10
Washington	2,861	17	3,880	22
Other States [1]	493,067	3,488	487,356	3,378
Total	862,875	6,343	895,045	6,479

[1] Includes Alabama, Arkansas, Maryland, Montana, New York, Pennsylvania, and Vermont.

Table 3.—Talc, soapstone, and pyrophyllite sold by producers in the United States, by classes

(Short tons and thousand dollars)

Year	Crude		Sawed, manufactured, and ground [2]		Total	
	Quantity	Value [1]	Quantity	Value [1]	Quantity	Value [1]
1957–61 (average)	58,741	$323	664,730	$15,233	723,471	$15,556
1962	58,699	303	718,219	17,579	776,918	17,882
1963	63,924	311	730,087	18,109	794,011	18,420
1964	73,438	371	801,587	18,862	875,025	19,233
1965	63,345	255	775,079	19,539	838,424	19,794
1966	52,197	253	738,736	18,776	790,933	19,029

[1] Valued at shipping point.
[2] Includes some crushed material.

Table 4.—Pyrophyllite [1] produced and sold by producers in the United States

(Short tons and thousand dollars)

Year	Production (Quantity)	Sales total	
		Quantity	Value
1957–61 (average)	149,848	144,370	$1,969
1962	125,247	133,336	1,779
1963	129,018	132,719	1,664
1964	136,108	142,532	1,843
1965	126,266	136,308	1,824
1966	125,202	126,874	1,627

[1] Includes sericite schist.

Table 5.—Talc, soapstone, and pyrophyllite sold or used by producers in the United States, by uses

(Short tons)

Use	Talc and soapstone		Pyrophyllite	
	1965	1966	1965	1966
Ceramics	233,937	210,376	33,971	22,205
Foundry facings	4,721	4,596	-----	-----
Insecticides	38,841	36,449	29,080	25,449
Paint	149,516	147,299	W	W
Paper	46,956	42,331	W	-----
Rice polishing	3,009	W	-----	-----
Roofing	58,691	59,346	-----	-----
Rubber	26,990	22,108	W	W
Textile	8,627	8,403	-----	-----
Toilet preparations	26,108	25,522	-----	-----
Other	[1] 104,720	[1] 107,629	[2] 73,257	[2] 79,220
Total	702,116	664,059	136,308	126,874

W Withheld to avoid disclosing individual company confidential data.

[1] Includes uses indicated by symbol W and asphalt filler, composition floor and wall tile, crayons, exports, grease manufacture, insulated wire and cable, joint cement, patching compound, plastics, refractories, vault manufacturing, and miscellaneous products.

[2] Includes uses indicated by symbol W and asphalt filler, joint cement, plaster products, refractories, and related products.

Table 6.—U. S. exports of talc, steatite, soapstone, and pyrophyllite, crude and ground

(Thousand short tons and thousand dollars)

Year	Quantity	Value	Year	Quantity	Value
1957–61 (average)	53	$1,508	1964	74	3,316
1962	47	2,133	1965	70	3,486
1963	57	2,690	1966	70	3,917

Table 7.—U.S. imports for consumption of talc, steatite, or soapstone, and French chalk, by classes and countries

(Short tons and thousand dollars)

Year	Crude and unground		Ground, washed, powdered, or pulverized, except toilet preparations		Cut and sawed		Total unmanufactured	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value[1]
1957–61 (average)	184	$15	23,732	$800	79	$35	23,995	$868
1962	27	4	25,650	1,015	100	51	25,777	1,073
1963	945	48	24,401	963	335	77	25,681	1,096
1964	371	16	22,261	855	82	46	22,714	928
1965:								
Canada	---	---	3,136	62	---	---	3,136	62
France	---	---	4,924	115	---	---	4,924	115
India	33	4	187	7	---	---	220	11
Italy	---	---	12,101	535	6	2	12,107	537
Japan	---	---	---	---	148	88	148	88
Korea, South	---	---	469	19	---	---	469	19
Rumania	---	---	18	1	---	---	18	1
Total	33	4	20,835	739	154	90	21,022	867
1966:								
Canada	254	2	3,038	64	9	5	3,301	71
France	4	(2)	5,046	116	1	(2)	5,051	116
India	28	3	84	3	---	---	112	6
Italy	---	---	9,835	451	8	4	9,843	455
Japan	---	---	---	---	239	130	239	130
Korea, South	55	3	3,307	46	---	---	3,362	49
Total	341	8	21,310	680	257	139	21,908	834

[1] Included in total values, other clay, n.s.p.f. was imported as follows: 1957–61 (average) $18; 1962, $3; 1963, $8; 1964, $11; 1965, $34; 1966, $7.

[2] Less than ½ unit.

Table 8.—World production of talc, soapstone, and pyrophyllite by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada (shipments)	46,161	54,250	58,132	[r] 52,837	67,148
Mexico [e]	4,400	4,400	4,400	4,400	4,400
United States	771,728	804,358	889,949	862,875	895,045
South America:					
Argentina	31,645	30,932	[r] 27,327	[r] 28,961	[e] 30,000
Brazil	42,218	38,487	53,038	[r] 63,546	[e] 64,000
Chile	2,095	2,846	3,042	1,641	2,501
Colombia	720	720	805	440	1,317
Paraguay	NA	NA	52	154	66
Peru	1,896	2,870	[r] 4,149	[r] 4,935	4,227
Uruguay	1,890	1,890	2,341	2,618	2,346
Europe:					
Austria	83,523	72,360	79,225	82,675	84,110
Finland	7,088	7,447	7,000	8,000	6,000
France	206,000	174,298	226,000	[r] 264,872	228,254
Germany, West (marketable)	30,411	[r] 26,957	[r] 33,604	[r] 33,878	34,392
Greece	2,662	[r] 3,025	[e] 3,000	[e] 4,000	[e] 4,000
Italy	142,860	153,590	[r] 147,522	[r] 131,256	124,207
Norway	100,040	80,537	84,986	88,000	[e] 94,000
Portugal	359	595	880	783	880
Rumania	[e] 110,000	[e] 110,000	[e] 110,000	126,765	[e] 127,000
Spain	30,562	30,317	29,550	[r] 30,000	[e] 30,000
Sweden	19,201	20,696	[r] 18,360	[r] 20,503	[e] 21,000
U.S.S.R. [e]	340,000	385,000	385,000	395,000	395,000
United Kingdom	8,240	8,933	11,374	[r] 11,174	[e] 11,000
Africa:					
Botswana	-----	-----	-----	-----	53
Rhodesia, Southern	23	21	15	[e] 90	NA
South Africa, Republic of	13,921	7,566	7,294	10,187	9,530
Swaziland	3,902	3,052	2,199	1,014	480
United Arab Republic (Egypt)	6,753	[r] 7,858	18,542	43,682	[e] 44,000
Asia:					
China, mainland [e]	165,000	165,000	165,000	165,000	165,000
India	121,749	133,357	[r] 154,203	[r] 176,449	172,284
Japan	649,651	944,551	1,162,646	[r] 1,110,908	1,186,935
Korea:					
North [e]	22,000	[r] 33,000	[r] 44,000	[r] 55,000	55,000
South	51,235	70,772	99,272	93,306	119,379
Pakistan	1,235	2,061	2,821	3,135	3,618
Philippines	130	105	108	654	702
Taiwan	14,781	16,300	18,718	16,787	31,694
Oceania:					
Australia	16,790	15,616	[r] 18,005	[r] 22,085	[e] 19,000
World total [e]	3,050,000	3,410,000	3,870,000	3,920,000	4,040,000

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available June 1967.

Table 9.—Austria, France, and Italy: Exports of talc and soapstone, by countries

(Short tons)

Destination	Austria		France		Italy	
	1965	1966	1965	1966	1965	1966
Algeria	-----	-----	7,241	1,997	-----	-----
Belgium-Luxembourg	5,501	6,031	4,646	4,352	787	NA
Denmark	373	362	168	226	36	-----
Finland	-----	-----	312	372	-----	-----
France	1,769	1,575	-----	-----	[r] 3,601	3,680
Germany, East	4,201	5,089	-----	-----	-----	-----
Germany, West	33,388	32,157	11,929	9,932	[r] 7,546	7,099
Hungary	4,008	3,197	-----	-----	153	NA
Israel	394	418	486	679	182	NA
Italy	7,917	8,904	777	1,579	-----	-----
Ivory Coast	-----	-----	365	538	-----	---
Japan	-----	-----	-----	-----	655	NA
Mexico	-----	-----	-----	-----	1,458	NA
Morocco	-----	-----	1,395	1,299	-----	-----
Netherlands	2,981	3,450	3,025	1,519	[r] 569	[1] 425
Poland	1,011	967	375	808	-----	-----
Portugal	13	7	683	568	[r] 323	NA
Rumania	219	44	-----	-----	7	-----
Spain	44	27	778	596	821	[1] 517
Sweden	93	57	922	845	[r] 132	NA
Switzerland	4,454	4,205	6,965	6,461	[r] 2,260	[1] 1,160
Tunisia	-----	-----	325	360	-----	-----
United Kingdom	305	184	9,467	9,535	[r] 7,370	7,585
United States	-----	-----	4,728	5,028	[r] 12,684	10,058
Yugoslavia	-----	11	-----	-----	96	NA
Other countries	8	68	1,829	1,930	8,790	12,961
Total	66,679	66,753	56,416	48,624	[r] 47,470	43,485

[r] Revised. NA Not available.

[1] From import detail of trade returns of the respective country.

Vermiculite

Table 1.—Vermiculite production statistics

	1957–61 (average)	1962	1963	1964	1965	1966
United States:						
Production:						
Crude...thousand short tons..	197	205	226	226	249	262
Value...thousand dollars..	$2,974	$3,293	$3,572	$3,613	$4,460	$4,954
Average value per ton......	$15.10	$16.06	$15.81	$15.99	$17.91	$18.91
Exfoliated thousand short tons..	154	152	172	177	177	193
Value...thousand dollars..	$10,076	$11,152	$13,877	$13,862	$13,424	$15,130
Average value per ton......	$65.43	$73.37	$80.68	$78.32	$75.84	$78.39
World: Production crude thousand short tons..	261	295	329	343	380	382

Table 2.—Free world production of vermiculite by countries

(Short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Argentina	2,962	3,064	[r] 4,071	[r] 1,857	[e] 2,205
Brazil	NA	NA	NA	NA	441
India	477	746	473	[r] 807	551
Kenya	22	101	37	24	84
South Africa, Republic of	85,534	98,758	111,872	126,911	113,732
Sudan	55	---	---	---	---
Tanzania	72	30	144	108	177
United Arab Republic (Egypt)	[2] 313	[2] 33	[2] 459	[2] 639	[3] 2,057
United States (sold or used by producers)	205,747	226,278	226,299	249,352	262,321
Free world total	295,182	329,010	[r] 343,355	[r] 379,698	381,568

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Compiled mostly from data available June 1967.

[2] Includes mica.

[3] Includes asbestos.

Table 3.—Republic of South Africa: Exports of crude vermiculite by countries

(Short tons)

Destination	1964	1965	1966
Australia	2,932	3,233	NA
Belgium	1,442	-----	
Canada	2,879	2,866	
Denmark	866	1,328	
France	10,343	10,138	
Germany, West	9,922	11,162	
Israel	-----	829	
Italy	18,289	12,715	
Japan	1,687	-----	
Netherlands	1,127	1,291	
Spain	2,287	2,770	
Sweden	587	785	
United Kingdom	34,502	37,535	
United States	18,417	16,692	
Other countries	2,574	4,667	
Total	107,854	106,011	98,300
Total value [1]	$2,026,972	$1,912,130	$1,857,382
Average value	$18.79	$18.04	$18.90

NA Not available.

[1] Converted to U.S. currency at the rate of one rand equals US$1.3909 (1964) US$1.3927 (1965) and US$1.3913 (1966).

Source: Quarterly Information Circular on Minerals for the Republic of South Africa and the territory of South-West Africa for 1964 and 1966 and Volume I Annual Foreign Trade Statistics for 1965.

FUELS

Carbon Black

Table 1.—Salient statistics of carbon black produced from natural gas and liquid hydrocarbons in the United States

(Thousand pounds)

	1962	1963	1964	1965	1966
Production:					
Channel process	207,438	179,012	169,919	147,909	153,117
Furnace process	1,849,026	1,879,904	2,053,297	2,205,867	2,418,435
Total	2,056,464	2,058,916	2,223,216	2,353,776	2,571,552
Shipments:					
Domestic sales	1,639,897	1,727,420	1,911,494	2,072,500	2,277,595
Exports	442,437	370,928	333,907	274,608	297,280
Total	2,082,334	2,098,348	2,245,401	2,347,108	2,574,875
Losses	370	592	910	135	1,236
Stocks, of producers, December 31	293,434	254,216	231,171	237,704	233,145
Value:					
Production ______ thousand dollars	145,256	147,824	155,761	166,111	184,308
Average per pound ______ cents	7.06	7.18	7.01	7.06	7.17

Table 2.—Carbon black produced from natural gas and liquid hydrocarbon in the United States, by States

(Thousand pounds)

State	1962	1963	1964	1965	1966	Change from 1965 (percent)
Louisiana	[1] 608,499	649,170	725,669	820,552	899,178	+10
Texas	[1] 1,106,874	1,105,189	1,165,593	1,172,693	1,296,292	+11
Other States	341,091	304,557	331,954	360,531	376,082	+4
Total	2,056,464	2,058,916	2,223,216	2,353,776	2,571,552	+9

[1] Small quantity of channel black produced in Louisiana included in Texas to avoid disclosing individual company confidential data.

Table 3.—Production and shipments of carbon black in the United States in 1966, by months and grades of furnaces

(Thousand pounds)

Month	SRF [1]	HMF [2]	GPF [3]	FEF [4]	HAF [5]	SAF [6]	ISAF [7]	Thermal	Total	Channel	Grand total
PRODUCTION [8]											
January	25,237	3,255	18,802	25,419	48,207	1,860	52,744	22,395	197,919	12,335	210,254
February	24,657	2,919	15,236	24,644	49,849	1,284	45,445	19,986	184,020	11,784	195,804
March	29,063	3,673	18,246	26,427	55,756	1,891	47,437	24,117	206,610	12,838	219,448
April	29,654	3,088	18,188	23,958	52,912	1,958	51,888	22,594	204,240	13,059	217,299
May	29,496	2,470	20,461	25,178	59,271	1,789	50,690	24,347	213,702	13,733	227,435
June	30,344	3,955	16,000	25,580	56,628	2,215	43,944	24,215	202,881	12,681	215,562
July	32,765	1,022	19,169	20,160	54,927	1,349	42,768	22,169	194,329	13,278	207,607
August	31,523	3,363	15,538	23,850	59,077	1,778	41,893	21,578	198,600	12,763	211,363
September	28,787	1,990	17,770	22,410	60,292	2,139	34,961	21,612	189,961	12,463	202,424
October	30,173	2,982	19,703	24,373	65,773	1,117	42,659	23,725	210,505	12,417	222,922
November	29,636	2,454	16,763	24,576	63,626	2,546	44,324	23,690	207,615	12,573	220,188
December	27,395	2,939	17,540	24,198	62,987	945	46,878	25,171	208,053	13,193	221,246
Total	348,730	34,110	213,416	290,773	689,305	20,871	545,631	275,599	2,418,435	153,117	2,571,552
SHIPMENTS (INCLUDING EXPORTS) [9]											
January	28,536	2,889	17,964	26,799	49,173	1,944	50,926	22,878	201,109	13,281	214,390
February	27,867	3,290	17,098	25,110	49,918	1,542	45,496	23,954	194,275	11,899	206,174
March	32,589	3,740	19,577	27,426	53,877	2,492	48,602	27,578	215,881	13,270	229,151
April	28,441	3,996	19,453	25,625	55,012	1,702	49,318	27,135	210,682	14,440	225,122
May	30,328	1,886	19,021	23,135	55,279	1,658	45,698	25,080	202,085	12,225	214,310
June	28,129	3,488	16,350	24,028	57,176	1,744	43,032	24,035	197,982	12,186	210,168
July	24,409	1,443	13,794	19,317	52,329	1,637	35,202	18,995	167,126	10,628	177,754
August	29,646	2,967	19,232	23,618	62,276	1,892	40,271	23,896	203,798	11,223	215,021
September	30,300	1,979	18,248	24,158	63,491	1,170	39,922	21,961	201,229	13,091	214,320
October	31,313	3,487	19,856	26,166	65,260	1,524	44,574	24,204	216,384	11,663	228,047
November	29,894	2,459	18,881	25,305	62,514	3,041	44,997	26,193	213,284	12,605	225,889
December	26,675	3,213	16,366	25,808	61,886	584	42,848	24,713	202,093	13,672	215,765
Total	348,127	34,837	215,840	296,495	688,191	20,930	530,886	290,622	2,425,928	150,183	2,576,111

[1] Semireinforcing furnace.
[2] High-modulus furnace.
[3] General-purpose furnace.
[4] Fast-extrusion furnace.
[5] High-abrasion furnace.
[6] Superabrasion furnace.
[7] Intermediate-abrasion furnace.
[8] Compiled from reports of a consulting engineer of the carbon black industry and of producing companies not included in his figures. Figures adjusted to agree with annual reports of individual producers.
[9] Includes losses.

Table 4.—Number and capacity of carbon black plants operated in the United States

State or district	County or Parish	Number of plants 1965 Channel	Number of plants 1965 Furnace	Number of plants 1966 Channel	Number of plants 1966 Furnace	Total daily capacity (thousand pounds) 1965	Total daily capacity (thousand pounds) 1966
Texas	Aransas	--	1	--	1	4,060	4,072
	Carson	1	--	1	--		
	Ector	1	--	1	--		
	Gaines	1	--	1	--		
	Gray	--	1	--	1		
	Harris	--	1	--	1		
	Howard	--	2	--	2		
	Hutchinson	1	4	1	4		
	Montgomery	--	1	--	1		
	Moore	--	1	--	1		
	Orange	--	1	--	1		
	Terry	--	1	--	1		
	Wheeler	--	1	--	1		
Total Texas		4	14	4	14	4,060	4,072
Louisiana	Avoyelles	--	1	--	1	2,733	2,721
	Calcasieu	--	1	--	1		
	Evangeline	--	1	--	1		
	Quachita	--	2	--	2		
	St. Mary	--	3	--	3		
Total Louisiana		--	8	--	8	2,733	2,721
Arkansas	Union	--	1	--	1	1,247	1,230
California	Contra Costa	--	1	--	1		
	Kern	--	2	--	2		
Kansas	Grant	--	1	--	1		
New Mexico	Lea	1	1	1	1		
Oklahoma	Kay	--	1	--	1		
		1	7	1	7	1,247	1,230
Total United States		5	29	5	29	8,040	8,023

Table 5.—Carbon black and the feedstocks used in its production, by States

	Louisiana	Texas	Other States[1]	Total
1965:				
Carbon black production:				
Total thousand pounds	820,552	1,172,693	360,531	2,353,776
Value thousand dollars	55,253	87,495	23,363	166,111
Average value cents per pound	6.73	7.46	6.48	7.06
Natural gas used:				
Total million cubic feet	22,278	50,906	20,112	93,296
Value thousand dollars	3,541	7,005	3,070	13,616
Average value cents per thousand cubic feet	15.89	13.76	15.26	14.59
Carbon black produced thousand pounds	334,782	175,103	83,340	593,225
Liquid hydrocarbons used:				
Total thousand gallons	117,050	218,917	53,206	389,173
Value thousand dollars	8,891	15,009	3,309	26,709
Average value cents per gallon	7.17	6.86	6.22	6.86
Carbon black produced thousand pounds	485,770	997,590	277,191	1,760,551
1966:				
Carbon black production:				
Total thousand pounds	899,178	1,296,292	376,082	2,571,552
Value thousand dollars	60,467	100,022	23,819	184,308
Average value cents per pound	6.72	7.72	6.33	7.17
Natural gas used:				
Total million cubic feet	22,100	48,541	20,513	91,154
Value thousand dollars	3,486	6,598	3,085	13,169
Average value cents per thousand cubic feet	15.77	13.59	15.04	14.45
Carbon black produced thousand pounds	286,627	145,987	91,350	523,964
Liquid hydrocarbons used:				
Total thousand gallons	135,133	243,788	54,779	433,700
Value thousand dollars	10,132	16,867	3,759	30,758
Average value cents per gallon	7.50	6.92	6.86	7.09
Carbon black produced thousand pounds	612,551	1,150,305	284,732	2,047,588

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[1] Arkansas, California, Kansas, New Mexico, and Oklahoma.

Table 6.—Natural gas and liquid hydrocarbons used in manufacturing carbon black in the United States and average yield

	1962	1963	1964	1965	1966
Natural gas used million cubic feet	133,302	117,378	106,759	93,296	91,154
Average yield of carbon black per thousand cubic feet pounds	4.03	4.63	5.38	6.36	5.75
Average value of natural gas used per thousand cubic feet cents	11.25	12.70	13.34	14.59	14.45
Liquid hydrocarbons used thousand gallons	330,399	333,103	354,874	389,173	433,700
Average yield of carbon black per gallon pounds	4.60	4.55	4.65	4.52	4.72
Average value of liquid hydrocarbons used per gallon cents	6.71	6.66	6.79	6.86	7.09
Number of producers reporting	10	9	9	9	9
Number of plants	41	39	37	34	34

Table 7.—Sales of carbon black for domestic consumption in the United States, by uses

(Thousand pounds)

Uses	1962	1963	1964	1965	1966	Change from 1965 (percent)
Chemical and food	6,776	7,288	10,259	8,447	(1)	(1)
Ink	41,162	46,471	45,688	54,333	63,682	+17
Paint	15,766	13,008	17,982	10,896	11,959	+10
Paper	4,620	8,721	8,004	7,649	6,108	−20
Plastics	7,720	8,539	12,281	20,183	21,945	+9
Rubber	1,551,204	1,629,905	1,789,432	1,945,459	2,131,169	+10
Miscellaneous	12,649	13,488	27,848	25,533	42,732	+67
Total	1,639,897	1,727,420	1,911,494	2,072,500	2,277,595	+10

(1) Chemical and food combined with miscellaneous in 1966 to avoid disclosing individual company confidential data.

Table 8.—Producers' stock of channel- and furnace-type blacks in the United States, December 31, 1962–66

(Thousand pounds)

Year	Furnace									Channel	Grand total
	SRF [1]	HMF [1]	GPF [1]	FEF [1]	HAF [1]	SAF [1]	ISAF [1]	Thermal	Total		
1962	38,509	12,046	24,619	28,507	68,470	8,939	58,471	13,575	253,136	40,298	293,434
1963	31,101	7,927	21,129	23,137	61,473	4,115	50,391	6,338	205,611	48,605	254,216
1964	39,200	9,234	26,166	20,641	46,230	5,134	36,062	5,529	188,196	42,975	231,171
1965	34,828	7,291	20,385	23,275	48,644	4,277	35,506	22,835	197,041	40,663	237,704
1966	35,479	5,570	15,709	21,411	53,344	4,925	43,801	9,615	189,854	43,291	233,145

[1] For explanation, see footnotes to table 3.

Table 9.—U.S. exports of carbon black by months, in 1966

(Thousand pounds)

Month	Channel	Furnace	Total
January	5,868	18,500	24,368
February	4,083	19,458	23,541
March	4,790	25,120	29,910
April	7,342	22,486	29,828
May	5,062	22,857	27,919
June	5,332	20,710	26,042
July	3,838	15,929	19,767
August	4,783	19,400	24,183
September	3,710	16,292	20,002
October	4,805	17,820	22,625
November	4,186	19,306	23,492
December	6,253	19,350	25,603
Total	60,052	237,228	297,280

Table 10.—U.S. exports of carbon black, by countries

(Thousand pounds and thousand dollars)

	1964		1965		1966	
	Quantity	Value	Quantity	Value	Quantity	Value
North America:						
Canada	22,578	$1,905	17,909	$1,624	45,243	$3,511
Guatemala	1,364	123	1,411	127	2,479	220
Mexico	3,889	364	2,767	216	2,698	256
Other	84	15	202	19	209	24
Total	27,915	2,407	22,289	1,986	50,629	4,011
South America:						
Argentina	10,710	1,051	9,987	1,028	3,295	352
Brazil	4,749	407	3,712	322	6,321	555
Chile	5,762	588	5,828	568	4,921	464
Colombia	9,065	820	11,733	1,015	8,345	757
Peru	4,578	401	5,214	454	6,087	531
Venezuela	1,729	168	1,537	151	1,527	150
Other	4,059	364	1,409	130	1,684	154
Total	40,652	3,799	39,420	3,668	32,180	2,963
Europe:						
Austria	1,738	131	1,263	102	750	61
Belgium-Luxembourg	5,139	498	4,717	424	5,471	495
Denmark	1,107	148	1,066	162	969	171
Finland	621	58	605	63	656	67
France	41,583	3,988	27,825	2,779	39,287	3,979
Germany, West	41,713	3,420	37,595	3,045	35,225	2,809
Greece	289	24	383	34	717	59
Italy	21,317	2,129	21,919	2,262	15,862	1,797
Netherlands	8,433	836	3,707	418	2,890	384
Norway	998	96	1,067	101	747	69
Poland and Danzig	287	25	1,559	134	2,537	251
Portugal	2,526	238	1,866	182	2,324	229
Spain	4,435	482	2,667	337	4,332	470
Sweden	4,265	379	5,383	428	5,089	388
Switzerland	1,464	138	1,726	166	2,784	247
United Kingdom	25,384	3,408	18,691	2,704	17,436	2,506
Yugoslavia	2,165	243	632	69	632	82
Other	4,263	368	2,384	210	242	29
Total	167,727	16,609	135,055	13,620	137,950	14,093
Africa:						
South Africa, Republic of	16,287	1,405	11,861	1,005	7,877	675
Other	2,492	215	1,078	103	2,140	196
Total	18,779	1,620	12,939	1,108	10,017	871
Asia:						
India	24,146	1,987	22,085	1,830	16,117	1,285
Indonesia	1,778	161	1,274	109	665	57
Iran	1,636	161	907	90	3,034	296
Israel	4,768	416	949	102	1,378	143
Japan	6,028	1,104	5,037	1,054	6,300	1,248
Korea, South	6,154	597	5,683	478	7,014	573
Malaysia	1,042	91	1,399	117	929	77
Pakistan	1,603	147	595	53	801	66
Philippines	10,220	890	8,100	721	10,150	904
Taiwan	427	55	229	47	412	58
Thailand	1,794	157	2,249	191	3,996	338
Turkey	6,102	508	6,400	546	4,169	349
Other	2,396	239	2,125	199	2,472	227
Total	68,094	6,513	57,032	5,537	57,437	5,621
Oceania:						
Australia	7,134	653	4,967	486	4,995	474
New Zealand	3,606	328	2,906	253	4,073	374
Total	10,740	981	7,873	739	9,068	848
Grand Total	333,907	31,929	274,608	26,658	297,281	28,407

Table 11.—World production of carbon black, by countries [1]

(Thousand pounds)

Country [1]	1962	1963	1964	1965	1966 [p]
Argentina	NA	12,820	25,132	31,967	NA
Brazil	43,430	54,784	52,699	49,780	NA
France	[r] 139,110	167,991	[r] 189,507	220,019	NA
Germany, West	201,549	221,119	269,371	[r] 276,380	[e] 308,600
India	---	26,455	NA	31,901	NA
Italy	65,426	96,341	141,756	162,920	NA
Japan	147,025	176,882	[r] 244,567	270,970	NA
Korea, South	---	276	694	725	[e] 880
Netherlands	NA	NA	[r] 114,198	136,244	153,881
Rumania	65,082	73,142	78,030	80,918	[e] 81,600
South Africa, Republic of	16,840	21,402	26,334	29,020	NA
Spain	2,866	2,866	3,307	3,748	NA
Taiwan	454	425	434	1,404	NA
United Kingdom	281,700	308,000	338,200	[r] 353,400	[e] 368,800
United States	2,056,464	2,058,916	2,223,216	2,353,776	2,571,552
Venezuela	NA	10,000	13,499	15,000	NA
Yugoslavia	8,234	9,438	10,818	[r] 11,241	13,228

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Australia, Belgium, China, Colombia, Mexico, and Sweden produce carbon black, but production data are not available. Canada's carbon black capacity was increased late in 1961 to about 100 million pounds annually. Actual production is not published to avoid disclosing individual company confidential data.

Coal—Bituminous and Lignite

Table 1.—Salient statistics of the bituminous coal and lignite industry in the United States

Item	1965	1966	Change from 1965 (percent)
Production short tons	512,088,263	533,881,210	+4.3
Consumption do	459,164,000	486,266,000	+5.9
Stocks at end of year:			
Industrial consumers and retail yards do	77,393,000	74,466,000	−3.8
Stocks on upper lake docks do	2,346,516	2,342,024	−.2
Imports and exports:[1]			
Imports do	184,399	177,672	−3.6
Exports do	50,181,361	49,302,390	−1.8
Price indicators, average per net ton:			
Cost of coking coal at merchant coke ovens	$9.65	$9.81	+1.7
Railroad freight charge[2]	$3.13	$3.01	−3.8
Value f.o.b. mines (sold in open market)	$4.13	$4.24	+2.7
Value f.o.b. mines	$4.44	$4.54	+2.3
Method of mining:			
Hand loaded underground short tons	36,028,245	28,243,380	−21.6
Mechanically loaded underground do	296,632,991	310,280,975	+4.6
Percentage of total underground production mechanically loaded	89.2	91.7	+2.8
Mined by stripping short tons	165,240,769	180,058,163	+9.0
Mined at auger mines do	14,186,258	15,298,692	+7.8
Mechanically cleaned do	332,225,863	340,625,627	+2.5
Number of mines	7,228	6,749	−6.6
Average number of days worked[3]	219	219	---
Average number of men working daily[3]	133,732	131,752	−1.5
Production per man per day[3]	17.52	18.52	+5.7
Fuel efficiency indicator: Pounds of coal per kilowatt-hour at electric power plants[4]	0.86	0.87	+1.2

[1] Bureau of the Census, U.S. Department of Commerce.
[2] Interstate Commerce Commission.
[3] Based on data supplied by the Accident Analysis Branch, Federal Bureau of Mines.
[4] Federal Power Commission.

Table 2.—Growth of the bituminous coal and lignite mining industry in the United States

	1960	1961	1962	1963	1964	1965	1966
Production……short tons	415,512,347	402,976,802	422,149,325	458,928,175	486,997,952	512,088,263	533,881,210
Value	$1,950,425,049	$1,844,562,662	$1,891,554,474	$2,013,309,368	$2,165,581,847	$2,276,022,033	$2,421,292,716
Average per ton	$4.69	$4.58	$4.48	$4.39	$4.45	$4.44	$4.54
Number of mines	7,865	7,648	7,740	7,940	7,630	7,228	6,749
Capacity at 280 days……million tons	609	585	594	627	606	655	683
Foreign trade:							
Exports……short tons	36,541,075	34,969,825	38,413,424	47,078,435	47,969,423	50,181,361	49,302,390
Imports……do	260,495	164,259	232,424	267,352	293,059	184,899	177,672
Men employed [1]	169,400	150,474	143,822	141,646	128,698	133,732	131,752
Average number of days worked	191	193	199	205	225	219	219
Average days lost per man on strike	4	4	6	6	6	4	7
Short tons per man:							
Per day	12.83	13.87	14.72	15.83	16.84	17.52	18.52
Per year	2,453	2,678	2,935	3,240	3,784	3,829	4,052
Percentage of underground production:							
Cut by machines	67.8	64.7	63.3	61.0	57.4	53.9	51.0
Mechanically loaded	86.3	86.3	85.7	85.8	87.4	89.2	91.7
Percentage of total production:							
Mechanically cleaned [2]	65.7	65.7	64.3	63.1	63.7	64.9	63.8
Mined by stripping	29.5	30.3	30.9	31.4	31.2	32.3	33.7

[1] Average number of men working daily.
[2] Bureau of Labor Statistics, U.S. Department of Labor.

Table 3.—Number and production of bituminous coal and lignite mines in the United States, in 1965 classified by thickness of seams mined

Item	Less than 2 feet	2 to 3 feet	3 to 4 feet	4 to 5 feet	5 to 6 feet	6 to 7 feet	7 to 8 feet	8 feet and over	Total
Number of mines:									
Underground	22	1,666	1,882	925	390	185	114	96	5,280
Strip	101	562	404	228	90	67	34	55	1,541
Auger	4	119	157	88	27	6	2	4	407
Total	127	2,347	2,443	1,241	507	258	150	155	7,228
Percentage of mines:									
Underground	0.4	31.6	35.6	17.5	7.4	3.5	2.2	1.8	100.0
Strip	6.6	36.5	26.2	14.8	5.8	4.3	2.2	3.6	100.0
Auger	1.0	29.2	38.6	21.6	6.6	1.5	.5	1.0	100.0
Total	1.7	32.5	33.8	17.2	7.0	3.6	2.1	2.1	100.0
Production (thousand tons):									
Underground	138	27,081	70,114	61,739	64,291	39,071	46,610	23,617	332,661
Strip	6,883	27,365	33,264	49,876	24,902	10,825	2,065	10,061	165,241
Auger	51	2,240	4,841	4,476	1,536	535	182	325	14,186
Total	7,072	56,686	108,219	116,091	90,729	50,431	48,857	34,003	512,088
Percentage of production:									
Underground	0.1	8.1	21.1	18.6	19.3	11.7	14.0	7.1	100.0
Strip	4.2	16.6	20.1	30.2	15.1	6.5	1.2	6.1	100.0
Auger	.4	15.8	34.1	31.5	10.8	3.8	1.3	2.3	100.0
Total	1.4	11.1	21.1	22.7	17.7	9.9	9.5	6.6	100.0

Table 4.—Number of mines, production, output per man per day, and average thickness of seams mined, at underground, strip, and auger bituminous coal and lignite mines in the United States, in 1965, by States

State	Underground mines				Strip mines				Auger mines				Total, all mines			
	Number of mines	Production (short tons)	Average output per man per day (tons)	Average thickness of seams mined (feet)	Number of mines	Production (short tons)	Average output per man per day (tons)	Average thickness of seams mined (feet)	Number of mines	Production (short tons)	Average output per man per day (tons)	Average thickness of seams mined (feet)	Number of mines	Production (short tons)	Average output per man per day (tons)	Average thickness of seams mined (feet)
Alabama	143	9,922,627	10.42	4.6	58	4,808,844	27.77	2.5	5	100,121	17.88	2.8	206	14,831,592	13.11	3.9
Alaska	---	-----	---	---	4	893,182	16.40	42.9	---	-----	---	---	4	893,182	16.40	42.9
Arkansas	4	74,295	5.98	3.4	4	151,593	19.62	1.8	---	-----	---	---	8	225,888	11.21	2.4
Colorado	72	3,520,329	11.44	7.9	7	1,270,129	47.44	7.1	---	-----	---	---	79	4,790,458	14.32	7.7
Illinois	41	25,813,625	20.98	7.7	49	32,669,583	37.54	5.3	---	-----	---	---	90	58,483,208	27.84	6.4
Indiana	20	2,355,307	14.31	5.9	41	13,210,102	38.06	4.2	---	-----	---	---	61	15,565,409	30.42	4.5
Iowa	9	196,484	9.54	5.5	19	846,758	24.47	4.3	---	-----	---	---	28	1,043,242	18.90	4.5
Kansas	---	-----	---	---	6	1,309,744	21.34	1.7	---	-----	---	---	6	1,309,744	21.34	1.7
Kentucky	1,594	50,688,234	12.64	4.4	116	30,142,599	47.45	4.9	117	4,934,878	45.94	4.3	1,827	85,765,711	18.05	4.6
Maryland	32	435,101	9.26	3.6	35	736,841	27.02	5.3	2	37,791	20.00	2.5	69	1,209,733	15.89	4.6
Missouri	3	25,701	3.48	3.5	13	3,538,042	35.88	2.4	---	-----	---	---	16	3,563,743	33.62	2.4
Montana (bituminous and lignite)	10	64,014	5.91	6.9	3	300,459	72.33	17.1	---	-----	---	---	13	364,473	24.33	15.3
New Mexico	5	434,320	14.14	7.5	3	2,777,593	80.15	11.8	---	-----	---	---	8	3,211,913	49.13	11.3
North Dakota (lignite)	1	1,341	8.19	9.0	28	2,730,594	45.90	11.5	---	-----	---	---	29	2,731,935	45.80	11.5
Ohio	93	11,267,581	13.61	4.9	264	26,364,829	29.33	3.6	60	1,757,311	52.41	3.9	417	39,389,721	22.39	4.0
Oklahoma	3	8,832	4.54	2.7	11	964,061	20.93	1.5	1	1,119	29.44	1.5	15	974,012	20.27	1.5
Pennsylvania	494	55,674,900	13.12	5.3	581	23,767,438	20.01	3.2	65	866,111	31.78	3.1	1,140	80,308,449	14.71	4.7
South Dakota (lignite)	---	-----	---	---	1	10,000	20.00	4.5	---	-----	---	---	1	10,000	20.00	4.5
Tennessee	180	3,581,134	10.96	3.8	41	2,066,777	25.68	2.7	9	217,262	29.37	2.9	230	5,865,173	14.15	3.4
Utah	31	4,992,003	15.74	10.3	---	-----	---	---	---	-----	---	---	31	4,992,003	15.74	10.3
Virginia	1,153	29,365,189	12.72	4.4	56	3,080,742	35.65	4.5	62	1,606,984	51.03	3.6	1,271	34,052,915	14.04	4.4
Washington	4	52,100	6.75	8.0	1	2,658	14.93	8.0	---	-----	---	---	5	54,758	6.93	8.0
West Virginia	1,383	134,064,281	15.04	5.2	191	10,462,246	28.00	4.9	86	4,664,681	49.21	4.7	1,660	149,191,208	15.90	5.2
Wyoming	5	123,838	8.78	5.4	9	3,135,955	53.30	29.7	---	-----	---	---	14	3,259,793	44.69	28.8
Total	5,280	332,661,236	14.00	5.3	1,541	165,240,769	31.98	5.2	407	14,186,258	45.85	4.2	7,228	512,088,263	17.52	5.2

Table 5.—Overburden at bituminous coal and lignite strip mines in the United States, by States

State	Number of strip mines					Mined by stripping, thousand short tons					Overburden excavated										Coal seam mined—average thickness, feet				
											Cubic yards per short ton of coal mined					Average thickness, feet									
	1946	1950	1955	1960	1965	1946	1950	1955	1960	1965	1946	1950	1955	1960	1965	1946	1950	1955	1960	1965	1946	1950	1955	1960	1965
Alabama	43	46	39	39	58	1,815	1,888	2,111	2,559	4,809	8.5	9.0	17.0	15.5	17.3	24.7	25.0	47.4	42.0	38.7	3.9	3.3	3.2	2.8	2.5
Alaska	2	5	7	6	4	87	131	400	656	893	(1)	(1)	4.6	3.1	2.0	(1)	60.7	94.3	74.6	66.9	(1)	13.2	23.7	34.6	42.9
Arkansas	20	15	8	10	4	563	505	261	296	151	9.5	16.1	21.5	21.7	15.4	27.2	22.8	32.4	32.2	29.1	4.2	5.7	1.7	1.8	1.8
Colorado	4	8	7	7	7	155	407	357	693	1,270	4.4	6.7	6.0	(1)	7.4	40.0	27.0	40.0	37.7	51.0	10.0	8.3	6.2	8.4	7.1
Georgia	1	---	---	---	---	89	---	---	---	---	(1)	---	---	---	---	(1)	---	---	---	---	(1)	---	---	---	---
Illinois	46	81	68	69	49	15,162	17,613	18,675	22,670	32,669	12.4	13.4	12.8	13.2	13.6	43.2	47.1	48.7	51.9	55.6	4.5	5.0	4.8	5.0	5.3
Indiana	50	44	56	47	41	11,826	10,740	11,182	10,785	13,210	10.1	11.5	14.5	13.4	14.4	37.2	40.0	43.2	46.0	49.0	4.2	4.4	4.4	4.6	4.2
Iowa	23	37	30	25	19	631	1,190	961	868	847	10.9	9.1	10.7	14.2	15.2	37.6	26.3	36.9	41.0	51.2	4.1	4.9	3.9	4.5	4.3
Kansas	30	32	19	11	6	2,283	2,024	727	885	1,310	23.4	19.4	24.6	25.1	30.2	33.6	30.7	28.7	29.1	39.3	1.6	1.9	1.6	1.5	1.7
Kentucky:																									
Eastern	24	72	72	68	73	1,444	2,511	1,902	1,983	4,410	8.2	8.8	(1)	8.0	(1)	27.8	38.8	29.3	38.1	36.1	3.6	5.6	3.3	3.1	4.3
Western	32	64	46	61	43	5,910	11,467	11,741	17,689	25,733	5.3	5.3	6.9	8.2	9.4	28.8	38.2	37.6	46.1	54.3	5.9	5.2	5.0	5.1	5.0
Total	56	136	118	129	116	7,354	13,978	13,643	19,672	30,143	5.5	5.3	(1)	8.2	9.4	28.7	38.2	37.3	45.7	53.1	5.4	5.3	4.8	4.9	4.9
Maryland	23	22	26	37	35	558	161	237	488	737	3.5	(1)	---	10.7	44.7	28.7	27.4	30.0	41.6	51.0	8.3	4.7	4.7	4.3	5.3
Missouri	29	43	28	23	13	3,341	2,635	3,075	2,802	3,538	15.1	17.1	19.8	17.4	15.2	30.3	32.5	33.6	31.7	37.1	2.5	3.3	2.5	2.2	2.4
Montana (bit. and lig.)	2	2	5	5	3	2,454	1,717	808	197	300	2.2	2.8	1.2	6.0	7.2	49.2	63.8	32.0	34.8	60.0	25.0	22.9	23.5	16.6	17.1
New Mexico	---	---	3	1	3	---	---	27	45	2,778	---	---	4.0	(1)	6.1	---	---	23.0	8.0	47.9	---	---	6.3	3.0	11.8
North Dakota (lignite)	28	37	40	31	28	2,128	2,828	3,081	2,523	2,731	5.2	5.6	4.7	4.9	5.4	47.5	38.2	43.3	41.3	40.7	10.3	9.4	12.1	11.0	11.5
Ohio	197	303	259	265	264	14,207	22,775	23,959	23,883	26,365	8.4	10.9	14.6	14.8	14.3	25.8	36.7	41.3	46.1	50.0	3.7	3.8	3.8	3.7	3.6
Oklahoma	22	29	21	15	11	1,672	1,727	1,469	1,094	964	14.9	19.3	22.9	21.9	33.3	29.0	31.7	32.4	32.2	43.0	2.0	2.1	2.3	1.7	1.5
Pennsylvania	640	726	585	553	581	31,687	26,427	20,518	20,876	23,767	8.7	9.6	14.1	14.5	17.6	25.3	33.3	40.9	43.5	48.4	4.1	3.7	3.2	3.2	3.2
Tennessee	7	16	87	71	41	196	584	1,635	1,764	2,067	10.4	16.1	11.4	19.0	34.0	21.4	27.1	24.4	30.1	38.1	2.4	2.9	2.5	2.9	2.7
Texas (lignite)	1	1	---	---	---	56	18	---	---	---	2.8	3.1	---	---	---	30.0	25.0	---	---	---	12.0	12.0	---	---	---
Virginia	15	19	31	35	56	656	1,566	982	1,371	3,081	4.8	6.3	6.9	12.2	12.0	28.2	50.1	38.4	39.7	42.6	7.8	6.1	5.0	4.1	4.5
Washington	8	4	1	1	1	97	71	32	16	3	6.9	2.8	5.0	10.5	9.8	23.3	23.6	25.0	25.0	22.0	7.1	7.0	5.5	2.9	8.0
West Virginia	186	249	168	140	191	14,937	12,986	9,380	6,754	10,462	6.4	6.5	8.9	11.8	11.3	30.9	38.5	37.0	42.5	41.3	6.1	5.5	5.8	4.9	4.9
Wyoming	9	12	8	9	9	993	1,459	1,539	1,713	3,136	2.1	2.1	1.6	.7	2.9	46.3	38.2	29.3	46.2	47.0	28.1	38.3	33.1	45.9	29.7
Other States:																									
California and South Dakota (lignite)	3	3	3	[2]1	1	17	37	34	[2]20	10	8.5	10.8	6.5	[2]13.9	[2]15.0	33.1	33.4	33.2	(1)	[2]17.0	4.4	4.4	5.3	[2]4.5	4.5
Total	1,445	1,870	1,617	1,530	1,541	112,964	123,467	115,093	122,630	165,241	9.1	10.7	12.3	12.6	12.8	31.6	39.0	41.6	45.6	50.1	5.2	5.1	4.9	5.1	5.2

[1] Data not available.

[2] South Dakota only.

Table 6.—Production of bituminous coal and lignite in the United States, in 1966, by States, with estimates by months, in thousand short tons [1]

State	January	February	March	April	May	June	July	August	September	October	November	December	Total	
													Short tons	Percentage
Alabama	1,247	1,282	1,475	630	701	1,101	890	1,540	1,401	1,343	1,264	1,345	14,219	2.66
Alaska	95	91	95	72	73	56	60	72	63	69	88	93	927	.17
Arkansas	18	21	17	20	22	22	11	20	22	24	17	22	236	.04
Colorado	481	484	484	330	375	410	246	461	422	471	504	554	5,222	.98
Illinois	5,190	4,803	5,764	4,874	5,233	4,837	3,898	5,859	5,593	5,860	5,759	5,901	63,571	11.91
Indiana	1,515	1,414	1,695	1,369	1,403	1,367	925	1,548	1,428	1,558	1,548	1,556	17,326	3.25
Iowa	100	102	101	91	77	69	78	77	102	77	83	68	1,025	.19
Kansas	124	111	107	89	86	89	81	111	75	89	90	70	1,122	.21
Kentucky:														
Eastern	3,753	3,530	4,451	3,262	4,493	4,699	3,672	5,086	4,534	4,700	4,460	4,326	50,966	9.55
Western	3,328	3,439	3,983	1,784	3,759	3,812	2,748	3,691	4,207	4,110	3,068	4,261	42,190	7.90
Total	7,081	6,969	8,434	5,046	8,252	8,511	6,420	8,777	8,741	8,810	7,528	8,587	98,156	17.45
Maryland	80	74	124	96	88	109	120	110	104	93	119	105	1,222	.23
Missouri	292	308	315	280	282	329	267	346	324	280	247	312	3,582	.67
Montana:														
Bituminous	8	8	8	7	8	9	8	4	8	8	8	7	91	.02
Lignite	28	31	28	26	28	32	27	16	27	29	29	27	328	.06
Total	36	39	36	33	36	41	35	20	35	37	37	34	419	.08
New Mexico	184	165	222	206	203	251	99	226	298	261	318	322	2,755	.52
North Dakota (lignite)	390	313	292	200	187	159	183	236	227	377	450	529	3,543	.66
Ohio	2,539	2,597	3,090	2,493	3,951	4,203	3,338	4,855	4,318	4,061	4,175	3,721	43,341	8.12
Oklahoma	77	75	66	79	71	90	51	64	62	65	74	69	843	.16
Pennsylvania	7,012	6,724	7,812	3,970	7,167	6,835	5,525	7,639	7,109	7,484	6,945	7,221	81,443	15.25
South Dakota (lignite)	2	2	1	---	---	---	---	---	---	1	2	2	10	---
Tennessee	474	412	601	522	578	610	501	588	508	532	474	509	6,309	1.18
Utah	466	409	437	343	340	380	278	401	463	322	377	419	4,635	.87
Virginia	2,828	2,654	3,270	2,346	3,115	2,996	2,403	3,308	2,921	3,335	3,113	3,276	35,565	6.66
Washington	11	9	7	4	3	2	1	2	2	4	5	9	59	.01
West Virginia	12,379	11,507	14,190	7,394	13,800	13,233	9,614	14,653	12,907	13,568	13,228	13,208	149,681	28.04
Wyoming	335	317	272	186	211	180	185	237	279	442	497	529	3,670	.69
Total	42,956	40,882	48,907	30,673	46,254	45,880	35,209	51,150	47,404	49,163	46,942	48,461	533,881	100.00

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[1] Total production is based on the annual canvass of individual mines. The monthly estimates are based upon carloadings and shipments on the Allegheny and Monongahela Rivers, supplemented by direct reports from certain local sources.

Table 7.—Production of bituminous coal and lignite in the United States, in 1966, by districts, with estimates by months, in thousand short tons [1]

(Districts as defined in the Coal Act of 1937 and modifications thereto)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total	
													Short tons	Percentage
1. Eastern Pennsylvania	3,693	3,537	4,156	2,157	3,802	3,654	2,974	4,069	3,755	3,951	3,721	3,843	43,312	8.11
2. Western Pennsylvania	3,627	3,478	4,041	2,053	3,707	3,536	2,858	3,952	3,677	3,871	3,593	3,735	42,128	7.89
3. Northern West Virginia	3,791	3,595	4,338	2,390	4,212	4,078	3,104	4,506	3,628	4,056	4,154	4,181	46,033	8.62
4. Ohio	2,539	2,597	3,090	2,493	3,951	4,203	3,338	4,855	4,318	4,061	4,175	3,721	43,341	8.12
5. Michigan	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6. Panhandle	449	426	514	283	499	483	368	534	430	481	492	495	5,454	1.02
7. Southern Numbered 1	3,199	2,944	3,673	1,904	3,570	3,406	2,428	3,776	3,478	3,567	3,879	3,371	38,695	7.25
8. Southern Numbered 2	11,649	10,819	13,577	8,673	13,308	13,174	9,979	14,401	12,989	13,654	12,882	12,894	147,999	27.72
9. West Kentucky	3,328	3,439	3,983	1,784	3,759	3,812	2,748	3,691	4,207	4,110	3,068	4,261	42,190	7.90
10. Illinois	5,190	4,803	5,764	4,874	5,233	4,837	3,898	5,859	5,593	5,860	5,759	5,901	63,571	11.91
11. Indiana	1,515	1,414	1,695	1,369	1,408	1,367	925	1,548	1,428	1,558	1,548	1,556	17,326	3.25
12. Iowa	100	102	101	91	77	69	78	77	102	77	83	68	1,025	.19
13. Southeastern	1,365	1,384	1,624	760	844	1,252	1,014	1,686	1,527	1,475	1,382	1,471	15,784	2.96
14. Arkansas–Oklahoma	55	57	49	58	56	66	36	51	52	56	53	55	644	.12
15. Southwestern	456	458	456	410	405	464	374	490	431	402	375	418	5,139	.96
16. Northern Colorado	86	76	66	37	51	29	3	38	47	80	74	98	685	.13
17. Southern Colorado	421	431	449	322	353	416	257	455	417	428	475	502	4,926	.92
18. New Mexico	158	142	191	177	174	216	85	194	256	224	278	276	2,366	.45
19. Wyoming	335	317	272	186	211	180	185	237	279	442	497	529	3,670	.69
20. Utah	466	409	437	343	340	380	278	401	463	322	377	419	4,635	.87
21. North–South Dakota	392	315	298	200	187	159	183	236	227	378	452	531	3,553	.66
22. Montana	36	39	36	33	36	41	35	20	35	37	37	34	419	.08
23. Washington	106	100	102	76	76	58	61	74	65	73	93	102	986	.18
Total	42,956	40,882	48,907	30,673	46,254	45,880	35,209	51,150	47,404	49,163	46,942	48,461	533,881	100.00

[1] Total production is based on the annual canvass of individual mines. The monthly estimates are based upon carloadings and shipments on the Allegheny and Monongahela Rivers, supplemented by direct reports from certain local sources.

Table 8.—Production of bituminous coal and lignite in the United States, with estimates by weeks

1965				1966			
Week ended—	Production (thousand short tons)	Maximum number of working days	Average production per working day (thousand short tons)	Week ended—	Production (thousand short tons)	Maximum number of working days	Average production per working day (thousand short tons)
Jan. 2	[1] 495	[1] 1	[2] 1,570	Jan. 1	[1] 89	[1] 0.1	[2] 1,946
Jan. 9	10,177	6	1,696	Jan. 8	10,281	6	1,714
Jan. 16	9,831	6	1,639	Jan. 15	10,722	6	1,787
Jan. 23	9,644	6	1,607	Jan. 22	10,607	6	1,768
Jan. 30	9,868	6	1,645	Jan. 29	10,116	6	1,686
Feb. 6	8,966	6	1,494	Feb. 5	8,842	6	1,474
Feb. 13	9,667	6	1,611	Feb. 12	10,171	6	1,695
Feb. 20	9,731	6	1,622	Feb. 19	10,238	6	1,706
Feb. 27	9,498	6	1,583	Feb. 26	10,805	6	1,801
Mar. 6	9,413	6	1,569	Mar. 5	10,325	6	1,721
Mar. 13	9,435	6	1,573	Mar. 12	10,464	6	1,744
Mar. 20	9,473	6	1,579	Mar. 19	10,809	6	1,802
Mar. 27	8,864	6	1,477	Mar. 26	10,710	6	1,785
Apr. 3	8,678	5.5	1,578	Apr. 2	9,372	5.3	1,768
Apr. 10	9,792	6	1,632	Apr. 9	10,476	6	1,746
Apr. 17	9,641	6	1,607	Apr. 16	6,295	6	1,049
Apr. 24	9,919	6	1,653	Apr. 23	5,741	6	957
May 1	9,918	6	1,653	Apr. 30	7,355	6	1,226
May 8	9,992	6	1,665	May 7	10,519	6	1,753
May 15	10,115	6	1,686	May 14	10,923	6	1,821
May 22	10,561	6	1,760	May 21	11,006	6	1,834
May 29	10,651	6	1,775	May 28	11,444	6	1,907
June 5	9,113	5.1	1,787	June 4	9,686	5.1	1,899
June 12	10,727	6	1,788	June 11	11,495	6	1,916
June 19	10,738	6	1,790	June 18	11,624	6	1,937
June 26	10,455	5.7	1,834	June 25	11,383	5.8	1,963
July 3	4,084	2	2,042	July 2	5,271	2.9	1,818
July 10	3,457	1.8	1,921	July 9	3,782	1.8	2,101
July 17	8,873	4.6	1,929	July 16	8,940	4.4	2,032
July 24	9,785	5.6	1,747	July 23	9,766	5.3	1,843
July 31	10,497	6	1,750	July 30	11,504	6	1,917
Aug. 7	10,875	6	1,813	Aug. 6	10,679	6	1,780
Aug. 14	10,690	6	1,782	Aug. 13	10,913	6	1,819
Aug. 21	10,545	6	1,758	Aug. 20	11,482	6	1,914
Aug. 28	10,331	6	1,722	Aug. 27	11,506	6	1,918
Sept. 4	10,554	6	1,759	Sept. 3	11,492	6	1,915
Sept. 11	9,349	5	1,870	Sept. 10	9,887	5	1,977
Sept. 18	9,999	6	1,667	Sept. 17	11,298	6	1,883
Sept. 25	9,502	6	1,584	Sept. 24	11,163	6	1,861
Oct. 2	10,675	6	1,779	Oct. 1	10,753	6	1,792
Oct. 9	10,808	6	1,801	Oct. 8	11,429	6	1,905
Oct. 16	11,150	6	1,858	Oct. 15	11,677	6	1,946
Oct. 23	11,101	6	1,850	Oct. 22	11,520	6	1,920
Oct. 30	11,134	6	1,856	Oct. 29	11,673	6	1,946
Nov. 6	11,021	6	1,837	Nov. 5	11,530	6	1,922
Nov. 13	10,165	5.4	1,882	Nov. 12	10,092	5.3	1,904
Nov. 20	11,525	6	1,921	Nov. 19	11,354	6	1,892
Nov. 27	9,769	5	1,954	Nov. 26	10,015	5	2,003
Dec. 4	10,882	6	1,814	Dec. 3	11,241	6	1,874
Dec. 11	11,005	6	1,834	Dec. 10	11,373	6	1,896
Dec. 18	11,174	6	1,862	Dec. 17	11,655	6	1,943
Dec. 25	8,915	4	2,229	Dec. 24	11,400	6	1,900
Jan. 1	[1] 8,861	[1] 4.5	[2] 1,946	Dec. 31	8,988	5	1,798
Total	512,088	295.2	1,735	Total	533,881	297.0	1,798

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[1] Figures represent output and number of working days in that part of week included in calendar year shown. Total production for the week ending January 2, 1965, was 7,850,000 short tons and for the week ending Janary 1, 1966, was 8,950,000 short tons.

[2] Average daily output for the entire week and not for working days in the calendar year shown.

Table 9.—Bituminous coal and lignite produced in the United States, by States, with production of maximum year and cumulative production from earliest record to end of 1966

(Thousand short tons)

State	Maximum production		Production, by years										Total production from earliest record to end of 1966
	Year	Quantity	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	
Alabama	1926	21,001	13,260	11,182	11,947	13,011	12,915	12,880	12,359	14,435	14,832	14,219	1,041,285
Arkansas	1907	2,670	508	364	441	409	395	256	221	212	226	236	100,213
Colorado	1917	12,483	3,594	2,974	3,294	3,607	3,678	3,379	3,690	4,355	4,790	5,222	535,234
Illinois	1918	89,291	46,993	43,912	45,466	45,977	45,246	48,487	51,736	55,023	58,483	63,571	3,974,473
Indiana	1918	30,679	15,841	15,022	14,804	15,538	15,106	15,709	15,100	15,075	15,565	17,326	1,258,582
Iowa	1917	8,966	1,312	1,179	1,180	1,068	927	1,130	1,213	973	1,043	1,025	358,886
Kansas	1918	7,562	749	823	772	888	664	915	1,169	1,263	1,310	1,122	286,554
Kentucky	1965	85,766	74,667	66,312	62,810	66,847	63,032	69,212	77,350	82,747	85,766	93,156	3,182,853
Maryland	1907	5,533	748	838	842	748	757	821	1,162	1,136	1,210	1,222	273,267
Missouri	1917	5,671	2,976	2,592	2,748	2,890	2,938	2,896	3,174	3,254	3,564	3,582	308,691
Montana	1944	4,844	413	305	345	313	371	382	343	346	364	419	173,256
New Mexico	1918	4,023	137	117	148	295	412	677	1,945	2,969	3,212	2,755	137,373
North Dakota	1950	3,261	2,561	2,314	2,413	2,525	2,726	2,733	2,399	2,637	2,732	3,543	112,412
Ohio	1920	45,878	36,862	32,028	35,112	33,957	32,226	34,125	36,790	37,310	39,390	43,341	2,314,752
Oklahoma	1920	4,849	2,195	1,630	1,525	1,342	1,031	1,048	1,008	1,028	974	843	186,748
Pennsylvania	1918	178,551	85,365	67,771	65,347	65,425	62,652	65,315	71,501	76,531	80,308	81,443	8,732,005
Tennessee	1956	8,848	7,955	6,785	5,913	5,931	5,860	6,213	6,121	5,990	5,865	6,309	430,787
Utah	1947	7,429	6,858	5,328	4,545	4,955	5,159	4,297	4,360	4,720	4,992	4,635	291,031
Virginia	1966	35,565	29,506	26,826	29,769	27,838	30,332	29,474	30,531	31,654	34,053	35,565	1,007,394
Washington	1918	4,082	360	252	242	228	191	235	190	68	55	59	149,296
West Virginia	1947	176,157	156,842	119,468	119,692	118,944	113,071	118,499	132,568	141,409	149,191	149,681	7,275,407
Wyoming	1945	9,847	2,117	1,629	1,977	2,024	2,529	2,569	3,124	3,101	3,260	3,670	421,883
Other States [1]	----	-----	885	795	696	752	759	897	874	762	903	937	190,654
Total	1947	630,624	492,704	410,446	412,028	415,512	402,977	422,149	458,928	486,998	512,088	533,881	32,743,036

[1] Production, if any, in Alaska, Arizona, California, Georgia, Idaho, Michigan, North Carolina, Oregon, South Dakota, Texas, and North Dakota in 1954 included in "Other States."

Table 10.—Number of mines, production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States

State	Production (short tons)					Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
	Number of active mines	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
Alabama	183	11,526,799	2,318,299	373,624	14,218,722	$7.04	5,131	211	1,084,546	13.11
Alaska	4	913,947	10,341	2,857	927,145	7.50	170	299	50,775	18.26
Arkansas	8	235,364	384	-----	235,748	6.96	103	194	19,980	11.80
Colorado	72	3,849,963	1,273,175	99,234	5,222,372	4.99	1,483	225	332,986	15.68
Illinois	83	56,902,688	5,581,127	1,087,373	63,571,188	3.85	8,324	256	2,132,372	29.81
Indiana	51	12,317,969	2,211,604	2,796,777	17,326,350	3.92	2,007	262	525,871	32.95
Iowa	23	709,558	315,485	221	1,025,264	3.69	229	224	51,205	20.02
Kansas	5	1,095,141	26,198	207	1,121,546	4.77	216	232	50,115	22.38
Kentucky	1,704	80,258,937	12,849,574	47,366	93,155,877	3.90	22,291	202	4,512,048	20.65
Maryland	52	699,157	523,251	-----	1,222,408	3.57	359	211	75,603	16.17
Missouri	14	1,707,787	445,265	1,429,152	3,582,204	4.14	356	279	99,352	36.06
Montana:										
Bituminous	9	45,285	44,393	1,232	90,910	7.10	78	175	13,670	6.65
Lignite	3	323,745	4,520	5	328,270	1.96	18	237	4,264	76.99
Total	12	369,030	48,913	1,237	419,180	3.08	96	187	17,934	23.37
New Mexico	7	713,552	2,025,688	16,056	2,755,296	3.31	388	163	63,397	43.46
North Dakota (lignite)	25	2,111,347	367,909	1,063,583	3,542,839	1.97	283	220	62,364	56.81
Ohio	426	26,919,536	12,628,068	3,793,827	43,341,431	3.79	7,527	237	1,781,425	24.33
Oklahoma	14	823,616	19,883	-----	843,499	5.85	205	206	42,181	20.00
Pennsylvania	1,088	63,179,582	16,466,625	1,796,594	81,442,801	5.22	23,217	231	5,363,559	15.18
South Dakota (lignite)	1	-----	9,500	-----	9,500	4.75	4	125	475	20.00
Tennessee	203	4,218,688	2,089,836	-----	6,308,524	3.77	2,301	177	407,183	15.49
Utah	25	4,210,025	411,002	14,303	4,635,330	5.77	1,374	212	290,931	15.93
Virginia	1,133	30,537,490	4,823,205	203,816	35,564,511	4.31	11,518	207	2,389,700	14.88
Washington	5	18,854	39,783	-----	58,637	8.77	77	236	18,210	3.22
West Virginia	1,597	144,326,438	2,492,246	2,862,017	149,680,701	5.04	43,769	214	9,377,256	15.96
Wyoming	14	1,403,966	48,861	2,217,310	3,670,137	3.23	324	231	74,792	49.07
Total	6,749	449,049,434	67,026,222	17,805,554	533,881,210	4.54	131,752	219	28,824,260	18.52

[1] Includes coal loaded at mine directly into railroad cars or river barges, hauled by trucks, to railroad sidings, and hauled by trucks to waterways.

[2] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor, tram, or pipeline.

[3] Value received or charged for coal, f.o.b. mine. Includes a value, estimated by producer, for coal not sold.

Table 11.—Number of mines, production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by districts

District	Production (short tons)					Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
	Number of active mines	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Tota					
1. Eastern Pennsylvania	839	32,980,582	9,283,914	1,047,493	43,311,989	$4.33	11,957	228	2,731,105	15.86
2. Western Pennsylvania	318	33,279,680	8,099,527	749,101	42,128,308	5.97	12,174	234	2,843,652	14.81
3. Northern West Virginia	447	45,251,104	757,019	24,433	46,032,556	4.65	11,924	220	2,626,413	17.53
4. Ohio	426	26,919,536	12,628,068	3,793,827	43,341,431	3.79	7,527	237	1,781,425	24.33
5. Michigan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6. Panhandle	23	2,536,013	271,828	2,645,920	5,453,761	4.28	1,295	221	286,577	19.03
7. Southern Numbered 1	641	37,525,332	1,011,032	157,717	38,694,081	6.14	14,008	207	2,897,099	13.36
8. Southern Numbered 2	3,360	134,554,865	13,160,843	283,567	147,999,275	4.44	46,787	204	9,534,304	15.52
9. West Kentucky	81	35,823,125	6,365,623	1,562	42,190,310	3.45	4,623	237	1,094,995	38.53
10. Illinois	83	56,902,688	5,581,127	1,087,373	63,571,188	3.85	8,324	256	2,132,372	29.81
11. Indiana	51	12,317,969	2,211,604	2,796,777	17,326,350	3.92	2,007	262	525,871	32.95
12. Iowa	23	709,558	315,485	221	1,025,264	3.69	229	224	51,205	20.02
13. Southeastern	251	12,796,390	2,613,250	373,624	15,783,264	6.76	5,818	206	1,195,750	13.20
14. Arkansas-Oklahoma	14	641,771	1,872	-----	643,643	7.30	200	189	37,760	17.05
15. Southwestern	27	3,220,137	489,858	1,429,359	5,139,354	4.29	680	256	173,868	29.56
16. Northern Colorado	5	468,869	210,303	6,227	685,399	4.20	209	208	43,407	15.79
17. Southern Colorado	70	3,750,420	1,066,248	109,063	4,925,731	5.35	1,524	209	317,852	15.50
18. New Mexico	4	344,226	2,022,312	-----	2,366,538	2.52	138	255	35,124	67.38
19. Wyoming	14	1,403,966	48,861	2,217,310	3,670,137	3.23	324	231	74,792	49.07
20. Utah	25	4,210,025	411,002	14,303	4,635,330	5.77	1,374	212	290,931	15.93
21. North-South Dakota	26	2,111,347	377,409	1,063,583	3,552,339	1.98	287	219	62,839	56.53
22. Montana	12	369,030	48,913	1,237	419,180	3.08	96	187	17,934	23.37
23. Washington	9	932,801	50,124	2,857	985,782	7.57	247	279	68,985	14.29
Total	6,749	449,049,434	67,026,222	17,805,554	533,881,210	4.54	131,752	219	28,824,260	18.52

[1] Includes coal loaded at mine directly into railroad cars or river barges, hauled by trucks to railroad sidings, and hauled by trucks to waterways.

[2] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor, tram, or pipeline.

[3] Value received or charged for coal, f.o.b. mine. Includes a value, estimated by producer, for coal not sold.

Table 12.—Number and production of bituminous coal and lignite mines in the United States, in 1966, by States and size of output

State	Class 1—500,000 tons and over				Class 2—200,000 to 500,000 tons				Class 3—100,000 to 200,000 tons			
	Mines		Production		Mines		Production		Mines		Production	
	Number	Percentage	Short tons	Percentage	Number	Percentage	Short ton	Percentage	Number	Percentage	Short tons	Percentage
Alabama	6	3.3	6,594,916	46.4	9	4.9	3,464,449	24.3	15	8.2	2,031,713	14.3
Alaska	---	---	---	---	3	75.0	923,017	99.5	---	---	---	---
Arkansas	---	---	---	---	---	---	---	---	1	12.5	113,357	48.1
Colorado	4	5.6	2,536,637	48.6	3	4.2	1,165,548	22.3	4	5.5	488,064	9.3
Illinois	40	48.2	58,666,182	92.3	9	10.9	3,285,102	5.2	6	7.2	880,998	1.4
Indiana	12	23.5	15,732,077	90.8	2	3.9	728,393	4.2	---	---	---	---
Iowa	---	---	---	---	---	---	---	---	5	21.8	654,314	63.8
Kansas	1	20.0	840,562	74.9	---	---	---	---	2	40.0	267,085	23.8
Kentucky	41	2.4	52,113,204	55.9	22	1.3	6,767,501	7.3	69	4.1	9,547,832	10.2
Maryland	---	---	---	---	---	---	---	---	2	3.8	302,953	24.8
Missouri	3	21.4	2,949,915	82.4	1	7.2	405,057	11.3	---	---	---	---
Montana (bituminous and lignite)	---	---	---	---	1	8.3	325,348	77.6	---	---	---	---
New Mexico	1	14.3	2,012,447	73.0	1	14.3	339,080	12.3	2	28.6	385,382	14.0
North Dakota (lignite)	2	8.0	2,066,606	58.3	3	12.0	866,641	24.5	2	8.0	370,091	10.4
Ohio	20	4.7	23,129,134	53.4	26	6.1	7,915,567	18.2	28	6.6	3,746,994	8.6
Oklahoma	---	---	---	---	2	14.3	487,352	57.6	1	7.1	137,753	16.4
Pennsylvania	40	3.7	40,411,238	49.6	29	2.7	8,953,484	11.0	71	6.5	9,655,672	11.8
South Dakota (lignite)	---	---	---	---	---	---	---	---	---	---	---	---
Tennessee	1	.5	593,762	9.4	4	2.0	1,020,385	16.2	10	4.9	1,230,577	19.5
Utah	3	12.0	1,857,175	40.1	5	20.0	1,686,533	36.4	3	12.0	453,998	9.8
Virginia	10	.9	10,655,536	29.9	10	.9	2,919,148	8.2	24	2.1	3,088,930	8.7
Washington	---	---	---	---	---	---	---	---	---	---	---	---
West Virginia	88	5.5	86,602,335	57.9	88	5.5	27,743,737	18.5	80	5.0	11,570,656	7.7
Wyoming	2	14.3	2,106,640	57.4	3	21.4	1,180,467	32.2	2	14.3	293,815	8.0
Total	274	4.1	308,868,366	57.9	221	3.3	70,176,809	13.1	327	4.8	45,220,184	8.5

Table 12.—Number and production of bituminous coal and lignite mines in the United States, in 1966, by States and size of output—Continued

State	Class 4— 50,000 to 100,000 tons				Class 5— 10,000 to 50,000 tons				Class 6— less than 10,000 tons				Total		
	Mines		Production		Mines		Production		Mines		Production			Production (short tons)	
	Number	Percentage	Short tons	Percentage	Number	Percentage	Short tons	Percentage	Number	Percentage	Short tons	Percentage	Mines	Total	Average per mine
Alabama	11	6.0	711,976	5.0	45	24.6	1,007,451	7.1	97	53.0	408,217	2.9	183	14,218,722	77,698
Alaska	---	---	---	---	---	---	---	---	1	25.0	4,128	.5	4	927,145	231,786
Arkansas	---	---	---	---	4	50.0	107,662	45.7	3	37.5	14,729	6.2	8	235,748	29,469
Colorado	6	8.3	499,681	9.6	18	25.0	395,728	7.6	37	51.4	136,714	2.6	72	5,222,372	72,533
Illinois	5	6.0	347,379	.5	14	16.9	357,005	.5	9	10.8	34,522	.1	83	63,571,188	765,918
Indiana	6	11.8	477,435	2.7	15	29.4	305,772	1.8	16	31.4	82,673	.5	51	17,326,350	339,732
Iowa	2	8.7	133,067	13.0	7	30.4	210,877	20.6	9	39.1	27,006	2.6	23	1,025,264	44,577
Kansas	---	---	---	---	1	20.0	11,973	1.1	1	20.0	1,926	.2	5	1,121,546	224,309
Kentucky	106	6.2	7,656,049	8.2	590	34.6	13,291,227	14.3	876	51.4	3,780,064	4.1	1,704	93,155,877	54,669
Maryland	3	5.8	224,311	18.4	18	34.6	560,263	45.8	29	55.8	134,881	11.0	52	1,222,408	23,508
Missouri	1	7.1	72,000	2.0	5	35.7	136,325	3.8	4	28.6	18,907	.5	14	3,582,204	255,872
Montana (bituminous and lignite)	1	8.3	51,848	12.4	2	16.7	22,618	5.4	8	66.7	19,366	4.6	12	419,180	34,932
New Mexico	---	---	---	---	1	14.3	12,327	.5	2	28.5	6,060	.2	7	2,755,296	393,614
North Dakota (lignite)	1	4.0	81,864	2.3	4	16.0	88,340	2.5	13	52.0	69,297	2.0	25	3,542,839	141,714
Ohio	57	13.4	4,231,848	9.8	148	34.7	3,681,879	8.5	147	34.5	636,009	1.5	426	43,341,431	101,740
Oklahoma	1	7.1	78,066	9.3	4	28.6	126,719	15.1	6	42.9	13,609	1.6	14	843,499	60,250
Pennsylvania	157	14.4	10,741,356	13.2	394	36.2	9,989,347	12.3	397	36.5	1,691,704	2.1	1,088	81,442,801	74,856
South Dakota (lignite)	---	---	---	---	---	---	---	---	1	100.0	9,500	100.0	1	9,500	9,500
Tennessee	19	9.4	1,341,687	21.3	79	38.9	1,741,605	27.6	90	44.3	380,508	6.0	203	6,308,524	31,076
Utah	5	20.0	444,503	9.6	6	24.0	185,483	4.0	3	12.0	7,638	.1	25	4,635,330	185,413
Virginia	75	6.6	4,610,249	13.0	553	48.8	11,766,358	33.1	461	40.7	2,524,290	7.1	1,133	35,564,511	31,390
Washington	---	---	---	---	2	40.0	39,946	68.1	3	60.0	18,691	31.9	5	58,637	11,727
West Virginia	132	8.3	9,575,855	6.4	475	29.7	11,153,809	7.5	734	46.0	3,034,309	2.0	1,597	149,680,701	93,726
Wyoming	1	7.2	55,946	1.5	1	7.1	19,530	.5	5	35.7	13,739	.4	14	3,670,137	262,153
Total	589	8.7	41,335,120	7.7	2,386	35.4	55,212,244	10.3	2,952	43.7	13,068,487	2.5	6,749	533,881,210	79,105

Table 13.—Number of mines, production, value, men working daily, days active, man-days, and output per man per day at underground bituminous coal and lignite mines in the United States, in 1966, by States

State	Number of active mines	Production (short tons)	Average value per ton, f.o.b. mines	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Alabama	116	8,900,179	$8.43	4,188	210	879,874	10.12
Arkansas	4	63,545	7.60	57	194	11,061	5,74
Colorado	65	3,600,576	5.73	1,365	221	302,345	11.91
Illinois	34	27,458,446	3.90	5,139	244	1,251,901	21.93
Indiana	13	1,860,917	4.30	542	206	111,798	16.65
Iowa	8	263,942	3.84	106	165	17,518	15.07
Kentucky	1,465	55,812,986	4.35	18,794	201	3,768,210	14.81
Maryland	23	429,481	3.82	203	202	41,020	10.47
Missouri	1	1,600	5.00	9	113	1,053	1.52
Montana:							
Bituminous	7	88,625	7.08	74	181	13,420	6.60
Lignite	1	1,619	4.50	3	198	593	2.73
Total	8	90,244	7.03	77	182	14,013	6.44
New Mexico	4	391,442	8.08	259	114	29,615	13.22
Ohio	89	13,059,973	4.39	3,618	224	809,851	16.13
Oklahoma	3	6,291	7.50	14	100	1,398	4.50
Pennsylvania	410	55,819,921	5.91	18,301	229	4,195,819	13.30
Tennessee	144	3,730,408	3.89	1,794	175	313,501	11.90
Utah	25	4,635,330	5.77	1,374	212	290,931	15.93
Virginia	1,002	29,744,979	4.50	10,666	207	2,209,841	13.46
Washington	4	55,693	8.83	76	238	18,081	3.08
West Virginia	1,318	132,475,359	5.18	40,959	216	8,836,269	14.99
Wyoming	5	123,043	6.22	73	169	12,342	9.97
Total	4,741	338,524,355	5.05	107,614	215	23,116,441	14.64

Table 14.—Underground production of bituminous coal and lignite in the United States, in 1966, by States and mining methods

State	Cut by hand and shot from solid		Cut by machines				Mined by continuous mining machines		Total underground (short tons)
	Short tons	Percentage of total under-ground	Short tons	Percentage of total under-ground	Number of coal-cutting machines	Average output per machine (short tons)	Short tons	Percentage of total under-ground	
Alabama	218,955	2.5	8,236,561	92.5	130	63,358	444,663	5.0	8,900,179
Arkansas	3,000	4.7	60,545	95.3	7	8,649	----	----	63,545
Colorado	146,621	4.1	1,125,972	31.3	132	8,530	2,327,983	64.6	3,600,576
Illinois	----	----	13,266,198	48.3	67	198,003	14,192,248	51,7	27,458,446
Indiana	----	----	1,860,917	100.0	33	56,391	----	----	1,860,917
Iowa	2,714	1.0	261,228	99.0	9	29,025	----	----	263,942
Kentucky	3,419,520	6.1	45,607,846	81.7	1,159	39,351	6,785,620	12.2	55,812,986
Maryland	28,343	6.6	241,106	56.1	21	11,481	160,032	37.3	429,481
Missouri	----	----	1,600	100.0	1	1,600	----	----	1,600
Montana:									
Bituminous	----	----	88,625	100.0	10	8,863	----	----	88,625
Lignite	1,619	100.0	----	----	----	----	----	----	1,619
Total	1,619	1.8	88,625	98.2	10	8,863	----	----	90,244
New Mexico	6,060	1.5	----	----	----	----	385,382	98.5	391,442
Ohio	10,177	.1	6,120,183	46.9	115	53,219	6,929,613	53.0	13,059,973
Oklahoma	1,488	23.7	4,803	76.3	3	1,601	----	----	6,291
Pennsylvania	206,982	.4	10,670,481	19.1	425	25,107	44,942,458	80.5	55,819,921
Tennessee	389,083	10.4	2,737,007	73.4	128	21,383	604,318	16.2	3,730,408
Utah	5,063	.1	1,089,731	23.5	38	28,677	3,540,536	76.4	4,635,330
Virginia	4,665,631	15.7	16,997,385	57.1	669	25,407	8,081,963	27.2	29,744,979
Washington	55,693	100.0	----	----	----	----	----	----	55,693
West Virginia	1,807,932	1.4	64,009,332	48.3	1,345	47,591	66,658,095	50.3	132,475,359
Wyoming	----	----	123,043	100.0	19	6,476	----	----	123,043
Total	10,968,881	3.2	172,502,563	51.0	4,311	40,015	155,052,911	45.8	338,524,355

Table 15.—Summary of drilling operations at underground bituminous coal and lignite mines in the United States

	1960	1961	1962	1963	1964	1965	1966
Number of mines using power drills	4,294	4,333	4,660	4,868	4,734	4,353	3,958
Number of power drills:							
Face or coal	8,265	7,837	7,744	7,496	7,185	6,720	6,160
Roof or rock	2,840	3,153	3,121	2,913	2,847	2,876	2,945
Total	11,105	10,990	10,865	10,409	10,032	9,596	9,105
Production:							
Shot holes:							
Powerdrilled thousand short tons	194,956	181,741	187,324	193,036	193,044	188,245	181,393
Hand drilled do	12,004	6,704	3,768	4,870	4,087	2,478	2,078
Continuous mining do	77,928	84,321	90,174	104,350	124,677	141,938	155,053
Total do	284,888	272,766	281,266	302,256	321,808	332,661	338,524
Production:							
Shot holes:							
Powerdrilled percent	68.4	66.6	66.6	63.9	60.0	56.6	53.6
Hand drilled do	4.2	2.5	1.4	1.6	1.3	.7	.6
Continuous mining do	27.4	30.9	32.0	34.5	38.7	42.7	45.8

Table 16.—Use of power drills in underground bituminous coal and lignite mines in the United States, in 1966, by States

State	Number of power drills							Production where shotholes are power-drilled (short tons)			
	Number of mines using power drills	Face or coal drills		Roof or rock drills				Handheld and post-mounted drills	Mobile drills	Total	Percentage of total underground
		Handheld and post-mounted	Mobile	Roof bolting		Other uses					
				Rotary	Percussion	Rotary	Percussion				
Alabama	78	162	21	49	60	4	15	5,806,934	2,546,595	8,353,529	93.9
Arkansas	4	9	---	---	---	4	---	61,545	---	61,545	96.9
Colorado	54	126	12	9	22	---	4	952,592	282,162	1,234,754	34.3
Illinois	34	6	72	135	---	4	---	46,835	13,219,363	13,266,198	48.3
Indiana	13	14	14	20	---	---	---	176,379	1,684,538	1,860,917	100,0
Iowa	5	5	4	3	---	1	---	10,722	246,447	257,169	97.4
Kentucky	1,194	1,468	186	295	72	7	8	26,806,471	22,029,064	48,835,535	87.5
Maryland	19	25	---	5	1	---	---	255,326	---	255,326	59.4
Montana:											
Bituminous	7	9	---	2	---	---	---	88,625	---	88,625	100.0
Lignite	1	2	---	---	---	---	---	1,619	---	1,619	100.0
Total	8	11	---	2	---	---	---	90,244	---	90,244	100.0
New Mexico	4	5	---	8	16	---	---	6,060	---	6,060	1.5
Ohio	80	102	27	83	4	9	---	1,165,062	4,950,723	6,115,785	46.8
Oklahoma	1	2	---	---	---	---	---	3,538	---	3,538	56,2
Pennsylvania	256	340	42	275	222	24	82	3,826,681	6,761,210	10,587,891	19.0
Tennessee	111	214	4	15	3	3	1	2,494,989	319,500	2,814,489	75.4
Utah	23	38	32	3	51	---	16	152,603	942,191	1,094,794	23.6
Virginia	900	1,185	21	89	78	7	20	17,536,590	3,671,519	21,208,109	71.3
Washington	3	17	---	---	---	---	---	47,989	---	47,989	86.2
West Virginia	1,166	1,756	231	861	268	27	57	35,930,244	29,245,455	65,175,699	49.2
Wyoming	5	8	1	3	---	---	---	121,707	1,336	123,043	100.0
Total	3,958	5,493	667	1,855	797	90	203	95,492,511	85,900,103	181,392,614	53.6

Table 17.—Number of underground bituminous coal and lignite mines and number of haulage units in use in the United States

Year	Number of underground mines	Locomotives				Shuttle cars			Gathering and haulage conveyors
		Trolley	Battery	Other types	Total	Cable reel	Battery	Total	
1961	5,843	6,362	583	162	7,107	4,687	182	4,869	1,635
1962	5,946	5,874	461	123	6,458	4,746	212	4,958	1,786
1963	6,129	5,273	484	113	5,870	4,952	175	5,127	1,998
1964	5,746	4,974	423	50	5,447	4,933	115	5,048	2,150
1965	5,280	4,637	341	85	5,063	4,971	189	5,160	2,402
1966	4,741	4,212	279	22	4,513	5,103	241	5,344	2,673

Table 18.—Haulage units and length of rail track in use in bituminous coal and lignite underground mines in the United States, in 1966, by States

State	Locomotives			Tractors, rubber-tired	Mine cars [1]		Shuttle cars		Shuttle buggies [1]	Gathering and haulage conveyors [1]		Rail track reported (miles)		
	Trolly	Battery	All others		Rail	Rubber-tired	Cable reel	Battery		Units	Miles	Main line	All other	Total
Alabama	140	---	---	37	2,797	14	172	---	2	129	60.1	71.0	44.1	115.1
Arkansas	---	1	---	---	28	---	---	---	---	---	---	.8	---	.8
Colorado	76	26	---	4	2,674	---	112	14	6	28	9.3	38.5	14.7	53.2
Illinois	87	20	---	13	1,797	2	286	2	---	161	68.2	37.2	21.9	59.1
Indiana	41	9	---	8	482	---	38	---	1	8	5.6	31.4	23.0	54.4
Iowa	5	1	---	---	451	---	6	---	---	---	---	7.5	2.0	9.5
Kentucky	630	54	4	704	6,985	1,440	751	62	582	222	76.5	294.1	106.6	400.7
Maryland	3	---	---	3	88	13	4	---	24	12	2.4	3.6	1.0	4.6
Montana:														
Bituminous	8	2	---	---	101	---	4	1	---	---	---	3.0	---	3.0
Lignite	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total	8	2	---	---	101	---	4	1	---	---	---	3.0	---	3.0
New Mexico	9	1	---	1	99	---	20	---	---	3	1.2	5.5	1.0	6.5
Ohio	196	17	1	17	3,244	8	166	---	---	75	21.3	100.3	24.7	125.0
Oklahoma	---	---	---	---	14	---	---	---	---	---	---	.3	.2	.5
Pennsylvania	1,236	78	7	125	19,299	165	1,014	16	16	601	194.0	558.7	320.0	878.7
Tennessee	80	5	---	52	639	83	48	---	40	15	3.9	24.2	6.4	30.6
Utah	103	3	---	5	2,621	9	123	6	---	54	14.1	83.2	17.8	101.0
Virginia	203	32	2	1,108	2,965	4,127	180	19	27	150	73.0	151.0	54.5	205.5
Washington	4	---	---	---	27	1	1	---	---	---	---	1.6	1.0	2.6
West Virginia	1,391	30	8	501	35,200	1,579	2,171	121	524	1,208	421.2	906.0	276.4	1,182.4
Wyoming	---	---	---	---	---	---	7	---	1	7	1.4	---	---	---
Total	4,212	279	22	2,578	79,511	7,441	5,103	241	1,223	2,673	952.2	2,317.9	915.3	3,233.2

[1] See table 19 for percentage of tonnage not reported.

Table 19.—Method of haulage at bituminous coal and lignite underground mines in the United States, in 1966, by States

State	Production (short tons) from mines						Percentage of total underground production from mines					
	Reporting rail mine cars	Reporting rubber-tired mine cars	Reporting shuttle buggies	With conveyor haulage only	Not reporting type of haulage	Total	Reporting rail mine cars	Reporting rubber-tired mine cars	Reporting shuttle buggies	With conveyor haulage only	Not reporting type of haulage	Total
Alabama	4,397,837	7,226	7,820	3,656,583	830,713	8,900,179	49.4	0.1	0.1	41.1	9.3	100.0
Arkansas	35,196	---	---	---	28,349	63,545	55.4	---	---	---	44.6	100.0
Colorado	1,505,300	---	---	1,686,761	408,515	3,600,576	41.8	---	---	46.9	11.3	100.0
Illinois	8,136,900	7,937	---	18,593,294	720,315	27,458,446	29.6	.1	---	67.7	2.6	100.0
Indiana	595,171	---	---	1,256,457	9,289	1,860,917	32.0	---	---	67.5	.5	100.0
Iowa	263,942	---	---	---	---	263,942	100.0	---	---	---	---	100.0
Kentucky	18,587,155	7,168,082	2,329,377	15,323,563	12,404,809	55,812,986	33.3	12.8	4.2	27.5	22.2	100.0
Maryland	27,261	37,146	99,455	257,518	8,101	429,481	6.3	8.6	23.2	60.0	1.9	100.0
Missouri	---	---	---	---	1,600	1,600	---	---	---	---	100.0	100.0
Montana:												
Bituminous	84,575	---	---	---	4,050	88,625	95.4	---	---	---	4.6	100.0
Lignite	---	---	---	---	1,619	1,619	---	---	---	---	100.0	100.0
Total	84,575	---	---	---	5,669	90,244	93.7	---	---	---	6.3	100.0
New Mexico	198,778	---	---	189,288	3,376	391,442	50.8	---	---	48.3	.9	100.0
Ohio	11,554,451	16,995	---	1,416,651	71,876	13,059,973	88.5	.1	---	10.8	.6	100.0
Oklahoma	2,753	---	---	---	3,538	6,291	43.8	---	---	---	56.2	100.0
Pennsylvania	38,110,125	1,081,098	78,993	16,415,084	134,621	55,819,921	68.3	1.9	.1	29.4	.3	100.0
Tennessee	1,429,278	357,653	175,146	986,313	782,018	3,730,408	38.3	9.6	4.7	26.4	21.0	100.0
Utah	3,589,561	89,521	---	886,402	69,846	4,635,330	77.4	2.0	---	19.1	1.5	100.0
Virginia	6,387,027	7,907,937	70,738	8,018,696	7,360,581	29,744,979	21.5	26.6	.2	27.0	24.7	100.0
Washington	47,989	7,704	---	---	---	55,693	86.2	13.8	---	---	---	100.0
West Virginia	88,922,309	3,552,957	1,832,517	35,767,554	2,400,022	132,475,359	67.1	2.7	1.4	27.0	1.8	100.0
Wyoming	---	---	1,336	113,942	7,765	123,043	---	---	1.1	92.6	6.3	100.0
Total	183,875,608	20,234,256	4,595,382	104,568,106	25,251,003	338,524,355	54.3	6.0	1.3	30.9	7.5	100.0

Table 20.—Rail mine cars used at bituminous coal and lignite underground mines in the United States, in 1966 by States [1]

State	Capacity						
	1 ton	2 tons	3 tons	4–5 tons	6–9 tons	10 tons and over	Total
	NUMBER REPORTED						
Alabama	82	19	25	1,404	1,267	---	2,797
Arkansas	---	18	---	10	---	---	28
Colorado	80	1,943	180	356	---	115	2,674
Illinois	126	582	60	214	680	135	1,797
Indiana	12	150	300	20	---	---	482
Iowa	297	100	54	---	---	---	451
Kentucky	124	664	1,106	2,525	902	1,664	6,985
Maryland	88	---	---	---	---	---	88
Montana: Bituminous	---	55	30	16	---	---	101
New Mexico	5	---	---	---	---	94	99
Ohio	230	240	558	211	876	1,129	3,244
Oklahoma	---	6	8	---	---	---	14
Pennsylvania	1,783	2,697	1,878	1,696	7,896	3,349	19,299
Tennessee	147	81	176	233	2	---	639
Utah	---	21	270	1,280	1,050	---	2,621
Virginia	70	119	759	1,337	180	500	2,965
Washington	---	---	---	27	---	---	27
West Virginia	149	1,571	8,207	12,531	4,749	7,993	35,200
Total	3,193	8,266	13,611	21,860	17,602	14,979	79,511
	PERCENTAGE OF TOTAL						
Alabama	2.9	0.7	0.9	50.2	45.3	---	100.0
Arkansas	---	64.3	---	35.7	---	---	100.0
Colorado	3.0	72.7	6.7	13.3	---	4.3	100.0
Illinois	7.0	32.4	3.3	11.9	37.9	7.5	100.0
Indiana	2.5	31.1	62.2	4.2	---	---	100.0
Iowa	65.8	22.2	12.0	---	---	---	100.0
Kentucky	1.8	9.5	15.8	36.2	12.9	23.8	100.0
Maryland	100.0	---	---	---	---	---	100.0
Montana: Bituminous	---	54.5	29.7	15.8	---	---	100.0
New Mexico	5.1	---	---	---	---	94.9	100.0
Ohio	7.1	7.4	17.2	6.5	27.0	34.8	100.0
Oklahoma	---	42.9	57.1	---	---	---	100.0
Pennsylvania	9.2	14.0	9.7	8.8	40.9	17.4	100.0
Tennessee	23.0	12.7	27.5	36.5	.3	---	100.0
Utah	---	.8	10.3	48.8	40.1	---	100.0
Virginia	2.3	4.0	25.6	45.1	6.1	16.9	100.0
Washington	---	---	---	100.0	---	---	100.0
West Virginia	.4	4.5	23.3	35.6	13.5	22.7	100.0
Total	4.0	10.4	17.1	27.5	22.1	18.9	100.0

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[1] See table 19 for percentage of tonnage not reported.

Table 21.—Rail mine car haulage at bituminous coal and lignite underground mines in the United States, in 1966, by States [1]

State	Production, by size of mine car reported						
	1 ton	2 tons	3 tons	4–5 tons	6–9 tons	10 tons and over	Total
			SHORT TONS				
Alabama	44,562	6,735	28,618	1,039,412	3,278,510	---	4,397,837
Arkansas	---	10,209	---	24,987	---	---	35,196
Colorado	42,600	828,909	18,305	395,738	---	219,748	1,505,300
Illinois	54,403	542,735	176,863	978,470	4,109,290	2,275,139	8,136,900
Indiana	1,100	261,539	255,478	77,054	---	---	595,171
Iowa	15,898	1,597	246,447	---	---	---	263,942
Kentucky	141,165	968,471	2,215,376	5,297,234	2,428,361	7,536,548	18,587,155
Maryland	27,261	---	---	---	---	---	27,261
Montana: Bituminous	---	29,327	3,400	51,848	---	---	84,575
New Mexico	2,684	---	---	---	---	196,094	198,778
Ohio	84,879	103,427	1,443,845	600,091	2,663,560	6,658,649	11,554,451
Oklahoma	---	1,265	1,488	---	---	---	2,753
Pennsylvania	469,463	1,253,983	2,178,022	1,667,984	19,909,699	12,630,974	38,110,125
Tennessee	128,885	179,885	350,286	729,750	40,472	---	1,429,278
Utah	---	15,063	42,800	1,789,162	1,742,536	---	3,589,561
Virginia	42,898	249,470	1,410,797	1,608,620	581,601	2,493,641	6,387,027
Washington	---	---	---	47,989	---	---	47,989
West Virginia	84,650	1,600,407	11,311,447	22,561,011	13,815,866	39,548,928	88,922,309
Total	1,140,448	6,053,022	19,683,172	36,869,350	48,569,895	71,559,721	183,875,608
			PERCENTAGE OF TOTAL				
Alabama	1.0	0.2	0.7	23.6	74.5	---	100.0
Arkansas	---	29.0	---	71.0	---	---	100.0
Colorado	2.8	55.1	1.2	26.3	---	14.6	100.0
Illinois	.7	6.7	2.2	12.0	50.5	27.9	100.0
Indiana	.2	43.9	42.9	13.0	---	---	100.0
Iowa	6.0	.6	93.4	---	---	---	100.0
Kentucky	.8	5.2	11.9	28.5	13.1	40.5	100.0
Maryland	100.0	---	---	---	---	---	100.0
Montana: Bituminous	---	34.7	4.0	61.3	---	---	100.0
New Mexico	1.4	---	---	---	---	98.6	100.0
Ohio	.7	.9	12.5	5.2	23.1	57.6	100.0
Oklahoma	---	45.9	54.1	---	---	---	100.0
Pennsylvania	1.2	3.3	5.7	4.4	52.2	33.2	100.0
Tennessee	9.0	12.6	24.5	51.1	2.8	---	100.0
Utah	---	.4	1.2	49.8	48.6	---	100.0
Virginia	.7	3.9	22.1	25.2	9.1	39.0	100.0
Washington	---	---	---	100.0	---	---	100.0
West Virginia	.1	1.8	12.7	25.4	15.5	44.5	100.0
Total	.6	3.3	10.7	20.1	26.4	38.9	100.0

[1] See table 19 for percentage of tonnage not reported.

Table 22.—Rubber-tired mine cars used at bituminous coal and lignite underground mines in the United States, in 1966, by States [1]

State	Capacity						
	1 ton	2 tons	3 tons	4–5 tons	6–9 tons	10 tons and over	Total
	NUMBER REPORTED						
Alabama	14	---	---	---	---	---	14
Illinois	---	2	---	---	---	---	2
Kentucky	478	516	285	107	54	---	1,440
Maryland	---	13	---	---	---	---	13
Ohio	---	4	4	---	---	---	8
Pennsylvania	26	94	12	3	8	22	165
Tennessee	14	45	19	1	---	4	83
Utah	---	4	---	1	4	---	9
Virginia	595	3,034	415	82	1	---	4,127
Washington	---	---	---	1	---	---	1
West Virginia	179	995	299	88	18	---	1,579
Total	1,306	4,707	1,034	283	85	26	7,441
	PERCENTAGE OF TOTAL						
Alabama	100.0	---	---	---	---	---	100.0
Illinois	---	100.0	---	---	---	---	100.0
Kentucky	33.2	35.8	19.8	7.4	3.8	---	100.0
Maryland	---	100.0	---	---	---	---	100.0
Ohio	---	50.0	50.0	---	---	---	100.0
Pennsylvania	15.8	57.0	7.3	1.8	4.8	13.3	100.0
Tennessee	16.9	54.2	22.9	1.2	---	4.8	100.0
Utah	---	44.5	---	11.1	44.4	---	100.0
Virginia	14.4	73.5	10.0	2.0	.1	---	100.0
Washington	---	---	---	100.0	---	---	100.0
West Virginia	11.3	63.0	19.0	5.6	1.1	---	100.0
Total	17.6	63.3	13.9	3.8	1.1	.3	100.0

[1] See table 19 for percentage of tonnage not reported.

Table 23.—Rubber-tired mine car haulage at bituminous coal and lignite underground mines in the United States, in 1966, by States [1]

State	Production, by size of mine car reported						
	1 ton	2 tons	3 tons	4–5 tons	6–9 tons	10 tons and over	Total
			SHORT TONS				
Alabama	7,226	---	---	---	---	---	7,226
Illinois	---	7,937	---	---	---	---	7,937
Kentucky	1,396,634	2,214,927	1,783,684	1,568,020	204,817	---	7,168,082
Maryland	---	37,146	---	---	---	---	37,146
Ohio	---	5,493	11,502	---	---	---	16,995
Pennsylvania	81,943	85,554	37,530	---	130,421	745,650	1,081,098
Tennessee	13,958	201,226	57,091	70,877	---	14,501	357,653
Utah	---	---	---	2,419	87,102	---	89,521
Virginia	790,636	5,602,356	1,215,645	295,848	3,452	---	7,907,937
Washington	---	---	---	7,704	---	---	7,704
West Virginia	411,044	1,760,387	985,789	320,460	75,277	---	3,552,957
Total	2,701,441	9,915,026	4,091,241	2,265,328	501,069	760,151	20,234,256
			PERCENTAGE OF TOTAL				
Alabama	100.0	---	---	---	---	---	100.0
Illinois	---	100.0	---	---	---	---	100.0
Kentucky	19.5	30.9	24.9	21.9	2.8	---	100.0
Maryland	---	100.0	---	---	---	---	100.0
Ohio	---	32.3	67.7	---	---	---	100.0
Pennsylvania	7.6	7.9	3.5	---	12.0	69.0	100.0
Tennessee	3.9	56.3	16.0	19.8	---	4.0	100.0
Utah	---	---	---	2.7	97.3	---	100.0
Virginia	10.0	70.8	15.4	3.7	.1	---	100.0
Washington	---	---	---	100.0	---	---	100.0
West Virginia	11.6	49.6	27.7	9.0	2.1	---	100.0
Total	13.4	49.0	20.2	11.2	2.5	3.7	100.0

[1] See table 19 for percentage of tonnage not reported.

Table 24.—Number and production of underground bituminous coal and lignite mines using gathering and haulage conveyors, and number and length of units in use in the United States [1]

Year	Number of mines	Production (short tons)	Number of units in use	Average length (feet)	Total length (miles)
1960	396	137,053,564	1,566	1,673	499.2
1961	414	140,938,297	1,635	1,655	512.6
1962	430	153,251,478	1,786	1,659	561.2
1963	494	173,999,774	1,998	1,656	626.9
1964	503	194,389,009	2,150	1,598	650.7
1965	553	210,651,555	2,402	1,713	779.3
1966	612	215,504,267	2,673	1,881	952.2

[1] Includes all gathering and haulage conveyors with capacity over 500 feet, except main-slope conveyors.

Table 25.—Number and production of underground bituminous coal and lignite mines using gathering and haulage conveyors, and number and length of units in use, in the United States, by States [1]

State	Number of mines		Production (short tons)		Number of units in use		Average length (feet)		Total length (miles)	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	7	5	6,200,083	3,656,583	67	129	2,139	2,459	27.1	60.1
Colorado	6	7	1,696,344	1,906,509	25	28	1,638	1,745	7.8	9.3
Illinois	20	18	23,772,616	26,066,239	157	161	2,212	2,238	65.8	68.2
Indiana	5	2	1,977,424	1,511,935	16	8	1,144	3,688	3,5	5.6
Kentucky	44	47	23,861,261	23,482,897	226	222	1,622	1,820	69.4	76.5
Maryland	4	4	221,130	257,518	10	12	940	1,058	1.8	2.4
New Mexico	1	2	421,262	385,382	1	3	1,500	2,083	.3	1.2
Ohio	16	23	4,101,954	10,372,976	66	75	1,168	1,500	14.6	21.8
Pennsylvania	116	125	35,349,963	35,752,876	557	601	1,553	1,704	163.8	194.0
Tennessee	1	5	140,000	986,313	1	15	2,000	1,366	.4	3.9
Utah	15	14	2,914,327	3,533,879	47	54	1,244	1,377	11.1	14.1
Virginia	19	27	11,054,211	12,539,079	144	150	2,442	2,571	66.6	73.0
West Virginia	297	331	98,828,853	94,938,139	1,078	1,208	1,693	1,841	345.7	421.2
Wyoming	2	2	112,127	113,942	7	7	1,071	1,071	1.4	1.4
Total	553	612	210,651,555	215,504,267	2,402	2,673	1,713	1,881	779.3	952.2

[1] Includes all mines using belt conveyors, 500 feet long or more for transporting coal underground. Excludes main-slope conveyors.

Table 26.—Underground mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties

State and county	Number of under-ground mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Alabama:						
Bibb	2	34,529	24	214	5,177	6.67
Blount	1	1,345	3	100	269	5.00
Cullman	1	2,200	4	100	440	5.00
Jackson	2	10,420	16	180	2,886	3.61
Jefferson	48	6,105,405	3,018	209	630,724	9.68
Marion	30	334,219	273	216	59,049	5.66
Shelby	9	521,962	238	229	54,599	9.56
Tuscaloosa	1	18,104	7	132	924	19.59
Walker	22	1,871,995	605	208	125,806	14.88
Total	116	8,900,179	4,188	210	879,874	10.12
Arkansas:						
Johnson	3	60,545	55	189	10,475	5.78
Sebastian	1	3,000	2	237	586	5.12
Total	4	63,545	57	194	11,061	5.74
Colorado:						
Delta	W	W	W	W	W	W
Fremont	14	277,041	82	238	19,469	14.23
Garfield	3	6,029	9	208	1,811	3.33
Gunnison	6	364,329	123	204	25,092	14.52
Huerfano	4	36,677	41	169	6,920	5.30
La Plata	6	21,681	22	192	4,319	5.02
Las Animas	W	W	W	W	W	W
Mesa	6	109,775	46	184	8,451	12.99
Moffat	W	W	W	W	W	W
Pitkin	W	W	W	W	W	W
Rio Blanco	2	5,309	4	231	933	5.69
Routt	W	W	W	W	W	W
Weld	5	685,399	209	208	43,407	15.79
Other counties	19	2,094,336	829	232	191,943	10.91
Total	65	3,600,576	1,365	221	302,345	11.91
Illinois:						
Christian	W	W	W	W	W	W
Douglas	W	W	W	W	W	W
Franklin	W	W	W	W	W	W
Gallatin	1	80,621	54	150	8,062	10.00
Jefferson	W	W	W	W	W	W
Logan	1	19,477	17	132	2,300	8.47
Macoupin	1	447,719	155	244	37,846	11.83
Mercer	1	12,694	9	140	1,261	10.07
Montgomery	W	W	W	W	W	W
Peoria	1	7,937	5	164	820	9.68
Randolph	1	826,485	155	298	46,172	17.90
St. Clair	W	W	W	W	W	W
Saline	W	W	W	W	W	W
Vermilion	2	44,222	30	164	4,924	8.98
Washington	W	W	W	W	W	W
Williamson	10	3,794,183	990	236	233,632	16.24
Other counties	16	22,225,108	3,724	246	916,884	24.24
Total	34	27,458,446	5,139	244	1,251,901	21.93
Indiana:						
Gibson	W	W	W	W	W	W
Greene	1	1,100	6	56	336	3.27
Knox	W	W	W	W	W	W
Pike	W	W	W	W	W	W
Sullivan	2	1,350,218	256	261	66,942	20.17
Vermillion	1	6,516	16	87	1,383	4.71
Vigo	W	W	W	W	W	W
Warrick	3	36,865	28	177	4,962	7.43
Other counties	6	466,218	236	162	38,175	12.21
Total	13	1,860,917	542	206	111,798	16.65

See footnotes at end of table.

Table 26.—Underground mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of under-ground mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Iowa:						
Appanoose	5	14,781	65	104	6,749	2.19
Lucas	1	81,756	17	260	4,419	18.50
Marion	1	2,714	5	92	460	5.90
Monroe	1	164,691	19	310	5,890	27.96
Total	8	263,942	106	165	17,518	15.07
Kentucky, Eastern						
Bell	49	1,042,343	391	210	82,139	12.69
Breathitt	4	94,302	68	188	11,907	7.92
Carter	2	28,800	24	238	5,708	5.05
Clay	51	1,084,241	641	197	126,221	8.59
Clinton	2	12,200	19	120	2,251	5.42
Elliott	1	1,500	3	100	300	5.00
Floyd	166	4,959,346	1,682	234	393,599	12.60
Harlan	104	5,593,632	2,156	229	493,701	11.33
Jackson	6	30,463	49	125	6,093	5.00
Johnson	42	228,206	174	158	27,462	8.31
Knott	95	1,897,384	1,024	170	174,072	10.90
Knox	43	137,121	125	192	23,972	5.72
Laurel	2	16,100	14	164	2,368	6.80
Lee	1	20,500	21	215	4,617	4.44
Leslie	30	1,401,114	742	207	153,631	9.12
Letcher	192	5,273,927	1,941	193	374,569	14.08
McCreary	10	586,654	199	234	46,486	12.62
Magoffin	7	54,556	55	100	5,456	10.00
Martin	11	514,834	152	239	36,230	14.21
Morgan	1	4,408	8	116	916	4.81
Perry	68	2,966,716	1,019	223	227,160	13.06
Pike	479	14,429,473	5,137	175	899,033	16.05
Pulaski	7	163,162	78	216	16,804	9.71
Rockcastle	1	1,000	2	100	200	5.00
Wayne	1	4,000	8	100	800	5.00
Whitley	48	363,963	194	162	31,376	11.60
Total	1,423	40,909,945	15,921	198	3,147,066	13.00
Kentucky, Western						
Butler	W	W	W	W	W	W
Christian	2	26,530	14	125	1,769	15.00
Daviess	1	5,800	17	48	836	6.94
Henderson	5	158,396	72	211	15,230	10.40
Hopkins	13	6,470,976	1,278	211	268,505	24.10
Muhlenberg	6	1,477,466	359	187	67,066	22.03
Ohio	6	1,027,537	103	258	26,579	38.66
Union	W	W	W	W	W	W
Webster	3	995,899	158	246	38,933	25.58
Other counties	6	4,740,437	877	231	202,226	23.44
Total	42	14,903,041	2,873	216	621,144	23.99
Total Kentucky	1,465	55,812,986	18,794	201	3,768,210	14.81
Maryland:						
Allegany	9	76,203	59	204	12,134	6.28
Garrett	14	353,278	144	201	28,886	12.23
Total	23	429,481	203	202	41,020	10.47
Missouri: Putman	1	1,600	9	113	1,053	1.52
Montana (bituminous):						
Blaine	W	W	W	W	W	W
Carbon	W	W	W	W	W	W
Musselshell	5	34,362	29	143	4,145	8.29
Other counties	2	54,263	45	206	9,275	5.85
Total	7	88,625	74	181	13,420	6.60
Montana (lignite): Sheridan	1	1,619	3	198	593	2.73
Total Montana	8	90,244	77	182	14,013	6.44

See footnotes at end of table.

Table 26.—Underground mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of under-ground mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
New Mexico:						
Colfax	W	W	W	W	W	W
San Juan	W	W	W	W	W	W
Other counties	4	391,442	259	114	29,615	13.22
Total	4	391,442	259	114	29,615	13.22
Ohio:						
Athens	8	94,344	67	218	14,650	6.44
Belmont	13	4,954,655	1,241	218	270,598	18.31
Carroll	2	4,675	9	100	889	5.26
Columbiana	6	41,973	33	146	4,753	8.83
Coshocton	W	W	W	W	W	W
Gallia	6	40,396	44	126	5,557	7.27
Harrison	6	4,627,037	1,341	245	328,625	14.08
Hocking	1	2,891	3	200	600	4.82
Jackson	W	W	W	W	W	W
Jefferson	8	837,380	175	231	40,531	20.66
Meigs	4	23,829	14	181	2,459	9.69
Monroe	W	W	W	W	W	W
Muskingum	6	50,769	61	88	5,401	9.40
Perry	6	491,792	106	167	17,716	27.76
Tuscarawas	8	557,402	159	237	37,688	14.79
Vinton	4	14,731	15	135	2,001	7.36
Other counties	11	1,318,099	350	224	78,383	16.82
Total	89	13,059,973	3,618	224	809,851	16.13
Oklahoma: Le Flore	3	6,291	14	100	1,398	4.50
Pennsylvania:						
Allegheny	14	4,179,934	1,160	229	265,561	15.74
Armstrong	40	3,660,339	937	226	211,825	17.28
Beaver	1	104,000	23	220	5,061	20.55
Bedford	W	W	W	W	W	W
Blair	2	4,714	9	172	1,546	3.05
Butler	11	556,212	161	228	36,787	15.12
Cambria	67	7,083,489	3,010	237	713,342	9.93
Centre	W	W	W	W	W	W
Clarion	3	39,147	25	167	4,095	9.56
Clearfield	38	1,269,348	522	214	111,738	11.36
Elk	9	121,754	65	213	13,915	8.75
Fayette	16	568,973	202	234	47,375	12.01
Greene	20	12,007,882	4,129	233	962,170	12.48
Huntingdon	4	5,557	15	94	1,440	3.86
Indiana	54	6,687,138	1,945	220	427,840	15.63
Jefferson	23	663,355	294	188	55,188	12.02
Somerset	58	1,371,950	679	192	130,290	10.53
Washington	15	13,485,915	3,946	239	943,071	14.30
Westmoreland	24	3,565,588	1,022	224	228,857	15.58
Other counties	11	444,626	157	228	35,718	12.45
Total	410	55,819,921	18,301	229	4,195,819	13.30
Tennessee:						
Anderson	22	1,700,310	407	230	93,526	18.18
Bledsoe	1	2,500	3	125	375	6.67
Campbell	18	267,756	175	211	36,881	7.26
Claiborne	7	386,120	163	215	35,134	10.99
Fentress	9	42,319	42	200	8,464	5.00
Grundy	1	1,385	3	150	420	3.30
Hamilton	3	11,400	38	100	3,800	3.00
Marion	34	656,999	319	159	50,694	12.96
Morgan	15	147,528	295	100	29,506	5.00
Overton	5	21,423	47	91	4,319	4.96
Putnam	1	45,000	18	195	3,510	12.82
Rhea	2	12,200	24	100	2,440	5.00
Scott	13	334,917	124	196	24,322	13.77
Sequatchie	12	97,551	130	150	19,510	5.00
Van Buren	1	3,000	6	100	600	5.00
Total	144	3,730,408	1,794	175	313,501	11.90

See footnotes at end of table.

Table 26.—Underground mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of underground mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Utah:						
Carbon	14	3,379,907	988	208	205,590	16.44
Emery	7	1,170,402	363	223	80,997	14.45
Iron	W	W	W	W	W	W
Kane	1	1,719	2	163	328	5.24
Sevier	W	W	W	W	W	W
Summit	1	15,063	7	243	1,698	8.87
Other counties	2	68,239	14	166	2,318	29.44
Total	25	4,635,330	1,374	212	290,931	15.93
Virginia:						
Buchanan	659	14,356,849	6,115	201	1,229,182	11.68
Dickenson	92	7,786,201	1,963	226	443,658	17.55
Lee	49	347,773	310	165	51,068	6.81
Montgomery	1	2,055	3	105	325	6.32
Russell	35	1,848,460	619	206	127,568	14.49
Scott	1	10,517	10	239	2,390	4.40
Tazewell	10	113,798	134	172	22,989	4.95
Wise	155	5,279,326	1,512	220	332,661	15.87
Total	1,002	29,744,979	10,666	207	2,209,841	13.46
Washington:						
King	W	W	W	W	W	W
Thurston	W	W	W	W	W	W
Other counties	4	55,693	76	238	18,081	3.08
Total	4	55,693	76	238	18,081	3.08
West Virginia:						
Barbour	30	2,002,110	625	229	143,212	13.98
Boone	60	6,564,041	1,905	202	384,762	17.06
Brooke	5	629,618	182	229	41,586	15.14
Clay	W	W	W	W	W	W
Fayette	96	4,596,554	2,259	183	413,359	11.12
Gilmer	W	W	W	W	W	W
Grant	W	W	W	W	W	W
Greenbrier	53	824,831	419	155	64,999	12.69
Harrison	30	5,679,153	1,324	211	279,348	20.33
Kanawha	81	10,029,910	2,552	211	538,374	18.63
Lewis	3	11,850	12	276	3,415	3.47
Logan	64	16,219,189	4,373	233	1,018,793	15.92
Marion	11	13,773,010	3,058	244	746,100	18.46
Marshall	W	W	W	W	W	W
Mason	6	245,820	119	201	23,866	10.30
McDowell	251	15,988,226	5,768	207	1,194,042	13.39
Mercer	31	1,160,756	509	188	95,693	12.13
Mineral	W	W	W	W	W	W
Mingo	71	5,064,060	1,775	202	358,644	14.12
Monongalia	38	8,165,120	1,778	235	417,867	19.54
Nicholas	89	8,115,331	2,546	231	588,067	13.80
Ohio	W	W	W	W	W	W
Pocahontas	W	W	W	W	W	W
Preston	80	2,213,240	965	197	190,141	11.64
Raleigh	97	7,944,126	3,058	220	672,661	11.81
Randolph	21	715,642	550	130	71,564	10.00
Taylor	13	100,467	88	143	12,543	8.01
Tucker	1	40,528	21	156	3,253	12.46
Upshur	15	390,157	148	187	27,612	14.13
Wayne	W	W	W	W	W	W
Webster	28	577,251	266	181	48,185	11.98
Wyoming	106	14,417,522	4,862	226	1,098,896	13.12
Other counties	38	7,006,847	1,797	222	399,287	17.55
Total	1,318	132,475,359	40,959	216	8,836,269	14.99
Wyoming:						
Hot Springs	W	W	W	W	W	W
Sweetwater	W	W	W	W	W	W
Other counties	5	123,043	73	169	12,342	9.97
Total	5	123,043	73	169	12,342	9.97
Total United States	4,741	338,524,355	107,614	215	23,116,441	14.64

W Withheld to avoid disclosing individual company data; included with "other counties."

Table 27.—Growth of strip mining at bituminous coal and lignite mines in the United States, compared with underground and auger mining

	1960	1961	1962	1963	1964	1965	1966
Production:							
Underground mines thousand short tons	284,888	272,766	281,266	302,256	321,808	332,661	338,524
Strip mines do	122,630	121,979	130,300	144,141	151,859	165,241	180,058
Auger mines do	7,994	8,232	10,583	12,531	13,331	14,186	15,299
Total do	415,512	402,977	422,149	458,928	486,998	512,088	533,881
Percentage of total mined by stripping	29.5	30.3	30.9	31.4	31.2	32.3	33.7
Average tons per man per day:							
Underground mines	10.64	11.41	11.97	12.78	13.74	14.00	14.64
Strip mines	22.93	25.00	26.76	28.69	29.29	31.98	33.57
Auger mines	31.36	30.61	34.61	38.87	42.63	45.85	44.43
Total	12.83	13.87	14.72	15.83	16.84	17.52	18.52
Average value per ton f.o.b. mine:							
Underground mines	5.14	5.02	4.91	4.82	4.92	4.93	5.05
Strip mines	3.74	3.67	3.64	3.57	3.55	3.57	3.64
Auger mines	3.37	3.24	3.33	3.25	3.35	3.36	3.58
Total	4.69	4.58	4.48	4.39	4.45	4.44	4.54
Number of strip mines	1,530	1,477	1,429	1,431	1,455	1,541	1,572
Number of power shovels and draglines	3,313	3,204	3,185	3,254	3,192	3,122	3,038

Table 28.—Number and production of bituminous coal and lignite strip mines and units of stripping and loading equipment in use in the United States

	1960	1961	1962	1963	1964	1965	1966
Number of strip mines	1,530	1,477	1,429	1,431	1,455	1,541	1,572
Production thousand short tons	122,630	121,979	130,300	144,141	151,859	165,241	180,058
Number of power shovels and dragline excavators:							
By type of power:							
Electric	311	286	296	304	315	322	326
Diesel-electric	194	210	214	213	146	105	90
Diesel	2,519	2,455	2,423	2,503	2,540	2,508	2,493
Gasoline	285	253	252	234	191	187	129
By capacity of dipper or bucket:							
Less than 3 cubic yards	2,315	2,162	2,111	2,101	2,045	1,952	1,836
3–5 do	588	606	597	627	599	576	580
6–12 do	265	299	335	372	381	413	440
More than 12 do	145	137	142	154	167	181	182
By type of machine:							
Power shovels	2,521	2,412	2,353	2,409	2,352	2,256	2,192
Dragline excavators	792	792	832	845	840	866	846
Total	3,313	3,204	3,185	3,254	3,192	3,122	3,038
Number of carryall scrapers	163	152	146	163	148	121	139
Number of bulldozers	2,345	2,341	2,330	2,430	2,441	2,428	2,496

Table 29.—Number and production of bituminous coal and lignite strip mines and units of stripping and loading equipment in the United States, in 1966, by States

State	Number of strip mines	Production (short tons)	Number of power shovels and dragline excavators											Number of carryall scrapers	Number of bulldozers
			By type of power				By capacity of dipper or bucket, cubic yards				By type of machine		Total		
			Electric	Diesel electric	Diesel	Gasoline	Less than 3	3–5	6–12	More than 12	Power shovels	Drag-line excavators			
Alabama	61	5,203,174	9	5	85	12	73	12	19	7	72	39	111	3	94
Alaska	4	927,145	---	---	10	---	5	4	1	---	9	1	10	9	15
Arkansas	4	172,203	---	1	7	---	5	1	2	---	3	5	8	---	7
Colorado	6	1,616,459	8	2	6	---	3	4	6	3	8	8	16	2	14
Illinois	49	36,112,742	96	7	42	---	15	23	51	56	92	53	145	1	149
Indiana	38	15,465,433	46	3	38	11	33	21	24	20	58	40	98	---	91
Iowa	15	761,322	1	---	32	3	20	13	3	---	19	17	36	3	28
Kansas	5	1,121,546	8	2	5	---	5	2	4	4	8	7	15	---	7
Kentucky:															
Eastern	74	4,931,708	---	1	99	8	79	27	2	---	105	3	108	4	93
Western	37	27,219,461	48	7	63	2	35	27	35	28	87	33	120	2	128
Total	111	32,151,169	48	8	162	10	114	54	37	23	192	36	228	6	221
Maryland	27	772,142	---	---	55	1	38	15	3	---	43	13	56	---	36
Missouri	13	3,580,604	10	7	4	9	16	4	3	7	20	10	30	5	31
Montana:															
Bituminous	2	2,285	3	---	---	1	---	1	---	3	3	1	4	---	---
Lignite	2	326,651	1	---	1	1	1	1	1	---	2	1	3	2	1
Total	4	328,936	4	---	1	2	1	2	1	3	5	2	7	2	1
New Mexico	3	2,363,854	5	---	2	---	1	---	3	3	6	1	7	1	9
North Dakota (lignite)	25	3,542,839	21	4	13	9	23	11	10	3	35	12	47	26	38
Ohio	274	28,545,829	44	16	490	24	352	127	68	27	421	153	574	29	466
Oklahoma	10	834,171	6	3	9	---	8	3	3	4	9	9	18	1	12
Pennsylvania	618	24,796,639	11	12	1,059	40	721	208	175	18	726	396	1,122	15	767
South Dakota (lignite)	1	9,500	---	---	1	---	1	---	---	---	1	---	1	---	1
Tennessee	49	2,276,395	2	5	83	1	70	12	9	---	85	6	91	6	71
Virginia	66	3,640,580	---	6	90	3	89	10	---	---	95	4	99	5	103
Washington	1	2,944	---	---	1	---	1	---	---	---	1	---	1	---	1
West Virginia	179	12,285,443	2	5	291	2	232	50	15	3	270	30	300	9	311
Wyoming	9	3,547,094	5	4	7	2	10	4	3	1	14	4	18	16	23
Total	1,572	180,058,163	326	90	2,493	129	1,836	580	440	182	2,192	846	3,038	139	2,496

Table 30.—Bituminous coal lignite strip mines using power drills in bank or overburden in the United States

Year	Number of mines	Production		Number of power drills		
		Quantity (short tons)	Percentage of total	Horizontal	Vertical	Total
1960	714	96,660,466	78.8	551	498	1,049
1961	650	92,135,940	75.5	495	449	944
1962	636	100,901,554	77.4	456	461	917
1963	613	108,424,525	75.2	414	459	873
1964	677	119,312,811	78.6	395	504	899
1965	734	129,504,535	78.4	381	537	918
1966	769	139,666,641	77.6	361	579	940

Table 31.—Bituminous coal and lignite strip mines using power drills in bank or overburden in the United States, by States

State	Number of mines		Production				Number of power drills					
			Quantity (short tons)		Percentage of total strip production		Horizontal		Vertical		Total	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	35	35	3,901,443	4,091,064	81.1	78.6	9	8	34	35	43	43
Alaska	4	3	573,865	604,605	64.2	65.2	2	2	3	3	5	5
Arkansas	3	3	145,612	167,683	96.1	97.4	1	1	2	2	3	3
Colorado	6	6	1,264,153	1,616,459	99.5	100.0	4	4	6	6	10	10
Illinois	43	32	25,109,366	27,713,888	76.9	76.7	19	16	36	33	55	49
Indiana	30	24	11,548,275	14,085,792	87.4	91.1	22	14	20	20	42	34
Iowa	13	14	732,761	714,255	86.5	93.8	14	13	13	12	27	25
Kansas	6	5	1,309,744	1,121,546	100.0	100.0	11	11	2	1	13	12
Kentucky:												
Eastern	26	24	2,443,532	2,008,383	55.4	40.7	21	14	6	15	27	29
Western	29	30	24,923,009	26,859,772	96.9	98.7	9	13	44	40	53	53
Total	55	54	27,366,541	28,868,155	90.8	89.8	30	27	50	55	80	82
Maryland	11	10	381,735	459,506	51.8	59.5	1	2	4	4	5	6
Missouri	11	11	3,522,056	3,564,957	99.5	99.6	9	12	4	6	13	18
Montana:												
Bituminous	2	2	2,144	2,285	100.0	100.0	---	---	3	3	3	3
Lignite	---	1	---	1,303	---	.4	---	1	---	---	---	1
Total	2	3	2,144	3,588	.7	1.1	---	1	3	3	3	4
New Mexico	3	3	2,777,593	2,363,854	100.0	100.0	3	2	1	3	4	5
North Dakota (lignite)	2	3	1,075,376	1,113,403	39.4	31.4	1	1	3	4	4	5
Ohio	129	127	21,527,373	22,117,169	81.7	77.5	60	62	108	109	168	171
Oklahoma	7	7	846,350	720,884	87.8	86.4	6	7	5	4	11	11
Pennsylvania	234	262	15,070,880	14,622,523	63.4	59.0	101	81	139	155	240	236
Tennessee	23	31	1,177,471	1,810,009	57.0	79.5	17	26	11	13	28	39
Virginia	14	20	1,948,871	2,012,057	63.3	55.3	10	11	10	14	20	25
West Virginia	97	110	7,419,705	9,985,783	70.9	81.3	58	56	77	89	135	145
Wyoming	6	6	1,803,221	1,909,461	57.5	53.8	3	4	6	8	9	12
Total	734	769	129,504,535	139,666,641	78.4	77.6	381	361	537	579	918	940

Table 32.—Method of haulage from bituminous coal and lignite strip mines to tipple or ramp, in the United States

	1960	1961	1962	1963	1964	1965	1966
Total strip production thousand short tons	122,630	121,979	130,300	144,141	151,859	165,241	180,058
Strip mines using trucks:							
Number of trucks	4,855	4,407	4,309	4,314	4,462	4,197	4,229
Average capacity per truck short tons	15.5	16.5	17.7	18.5	19.5	21.3	22.5
Average distance hauled miles	4.8	4.4	4.9	4.7	4.7	4.9	4.6
Strip production:							
Total thousand short tons	104,100	101,952	109,846	119,681	132,210	138,579	155,567
Percentage of total	84.9	83.6	84.3	83.0	87.1	83.9	86.4
Strip mines not reporting method of haulage—production thousand short tons	18,530	20,027	20,454	24,459	19,649	26,662	24,491

Table 33.—Method of haulage from bituminous coal and lignite strip mines to tipple or ramp, in the United States in 1966, by States

State	Strip mines reporting method of haulage					Strip mines not reporting method of haulage—production (short tons)	Total strip production (short tons)
	Number of trucks	Average capacity per truck (short tons)	Average distance hauled (miles)	Production			
				Short tons	Percentage of total production		
Alabama	105	23.3	5.7	3,227,226	62.0	1,975,948	5,203,174
Alaska	11	37.7	6.6	604,605	65.2	322,540	927,145
Arkansas	12	10.4	1.1	172,203	100.0	------	172,203
Colorado	17	38.5	2.7	1,523,331	94.2	93,128	1,616,459
Illinois	324	45.5	3.6	36,027,755	99.8	84,987	36,112,742
Indiana	134	40.5	3.3	15,281,785	98.8	183,648	15,465,433
Iowa	34	10.6	3.9	712,313	93.6	49,009	761,322
Kansas	27	38.1	2.1	1,121,546	100.0	------	1,121,546
Kentucky	404	28.4	4.0	28,480,692	88.6	3,670,477	32,151,169
Maryland	47	17.6	5.2	635,691	82.3	136,451	772,142
Missouri	52	33.0	6.5	2,899,827	81.0	680,777	3,580,604
Montana:							
Bituminous	2	7.5	.6	2,285	100.0	------	2,285
Lignite	4	20.0	1.5	325,348	99.6	1,303	326,651
Total	6	15.8	1.5	327,633	99.6	1,303	328,936
New Mexico	18	47.1	3.4	2,363,854	100.0	------	2,363,854
North Dakota (lignite)	88	21.6	2.9	3,384,498	95.5	158,341	3,542,839
Ohio	685	21.4	5.8	23,611,270	82.7	4,934,559	28,545,829
Oklahoma	50	19.4	11.6	829,890	99.5	4,281	834,171
Pennsylvania	1,426	15.7	7.1	18,083,032	72.9	6,713,607	24,796,639
South Dakota (lignite)	1	6.0	1.0	9,500	100.0	------	9,500
Tennessee	117	18.1	9.6	1,264,091	55.5	1,012,304	2,276,395
Virginia	103	18.6	4.4	1,941,807	53.3	1,698,773	3,640,580
Washington	1	10.0	.5	2,944	100.0	------	2,944
West Virginia	536	19.0	5.9	9,514,669	77.4	2,770,774	12,285,443
Wyoming	31	26.5	1.6	3,547,094	100.0	------	3,547,094
Total	4,229	22.5	4.6	155,567,256	86.4	24,490,907	180,058,163

Table 34.—Stripping operations in the bituminous coal and lignite fields of the United States, in 1966, by States and counties

State and county	Number of strip mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Alabama:						
Bibb	8	104,996	27	153	4,070	25.80
Blount	4	175,739	95	185	17,539	10.02
Etowah	W	W	W	W	W	W
Jackson	1	534,463	37	314	11,606	46.05
Jefferson	17	887,969	129	244	31,388	28.29
Marion	2	165,126	25	262	6,478	25.49
Tuscaloosa	10	1,344,152	207	257	53,171	25.28
Walker	16	1,856,049	294	216	63,607	29.18
Winston	W	W	W	W	W	W
Other counties	3	134,680	60	168	10,059	13.39
Total	61	5,203,174	874	226	197,918	26.29
Alaska	4	927,145	170	299	50,775	18.26
Arkansas:						
Franklin	1	113,357	21	229	4,832	23.46
Johnson	W	W	W	W	W	W
Sebastian	W	W	W	W	W	W
Other counties	3	58,846	25	163	4,087	14.40
Total	4	172,203	46	194	8,919	19.31
Colorado:						
Fremont	2	18,302	5	204	1,020	17.94
Montrose	W	W	W	W	W	W
Routt	W	W	W	W	W	W
Other counties	4	1,598,157	111	264	29,261	54.62
Total	6	1,616,459	116	261	30,281	53.38
Illinois:						
Adams	1	21,827	15	150	2,183	10.00
Fulton	7	7,370,303	751	287	215,632	34.18
Gallatin	2	59,724	40	50	1,991	30.00
Greene	1	2,313	1	288	289	8.01
Grundy	W	W	W	W	W	W
Jackson	3	586,620	114	159	18,061	32.48
Knox	W	W	W	W	W	W
Peoria	3	1,415,063	141	286	40,292	35.12
Perry	4	9,414,563	457	327	149,580	62.94
Randolph	3	2,378,302	199	277	55,002	43.24
St. Clair	W	W	W	W	W	W
Saline	7	1,996,533	378	261	98,741	20.22
Schuyler	W	W	W	W	W	W
Stark	W	W	W	W	W	W
Vermilion	3	784,136	106	275	29,215	26.84
Will	W	W	W	W	W	W
Williamson	7	2,227,205	267	266	71,111	31.32
Other counties	8	9,856,153	716	277	198,374	49.68
Total	49	36,112,742	3,185	276	880,471	41.02
Indiana:						
Clay	5	1,185,823	166	296	49,082	24.16
Daviess	1	30,284	12	230	2,761	10.97
Fountain	W	W	W	W	W	W
Greene	4	2,385,300	225	302	68,074	35.04
Owen	W	W	W	W	W	W
Parke	1	11,751	10	238	2,374	4.95
Perry	W	W	W	W	W	W
Pike	5	2,241,190	238	287	68,246	32.84
Spencer	6	93,494	39	157	6,095	15.34
Sullivan	2	1,585,940	170	285	48,396	32.77
Vigo	1	472,915	69	231	15,870	29.80
Warrick	10	7,436,788	518	291	150,878	49.29
Other counties	3	21,948	18	128	2,297	9.56
Total	38	15,465,433	1,465	283	414,073	37.35

See footnote at end of table.

Table 34.—Stripping operations in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of strip mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Iowa:						
Manaska	7	339,492	57	310	17,728	19.15
Marion	6	403,767	56	254	14,318	28.20
Van Buren	1	16,121	8	190	1,521	10.60
Wapello	1	1,942	2	60	120	16.18
Total	15	761,322	123	274	33,687	22.60
Kansas:						
Cherokee	W	W	W	W	W	W
Crawford	W	W	W	W	W	W
Other counties	5	1,121,546	216	232	50,115	22.38
Total	5	1,121,546	216	232	50,115	22.38
Kentucky, Eastern:						
Bell	9	1,091,253	136	229	31,170	35.01
Boyd	2	16,171	11	304	3,341	4.84
Breathitt	5	690,180	173	200	34,509	20.00
Clay	W	W	W	W	W	W
Floyd	W	W	W	W	W	W
Harlan	9	337,704	70	152	10,673	31.64
Johnson	5	417,239	70	200	13,908	30.00
Knott	5	698,269	155	150	23,276	30.00
Knox	W	W	W	W	W	W
Leslie	W	W	W	W	W	W
Letcher	7	253,435	23	194	4,436	57.13
Magoffin	1	45,302	66	30	1,984	22.83
Martin	1	5,000	7	50	333	15.00
Morgan	3	26,400	9	208	1,901	13.89
Perry	8	471,760	105	150	15,725	30.00
Pike	6	279,909	35	200	6,998	40.00
Pulaski	3	115,639	12	270	3,338	34.64
Whitley	W	W	W	W	W	W
Other counties	10	483,447	205	110	22,493	21.49
Total	74	4,931,708	1,077	162	174,085	28.33
Kentucky, Western:						
Butler	W	W	W	W	W	W
Caldwell	1	17,230	5	100	492	35.00
Daviess	W	W	W	W	W	W
Hopkins	12	3,281,027	341	219	74,654	43.95
Muhlenberg	10	17,376,264	917	294	269,692	64.43
Ohio	8	4,921,281	340	264	89,673	54.88
Union	1	412,667	28	219	6,137	67.24
Webster	1	1,682	4	25	112	15.00
Other counties	4	1,209,310	108	299	32,238	37.51
Total	37	27,219,461	1,743	271	472,998	57.55
Total Kentucky	111	32,151,169	2,820	229	647,083	49.69
Maryland:						
Allegany	11	192,728	48	223	10,749	17.93
Garrett	16	579,414	96	237	22,794	25.42
Total	27	772,142	144	233	33,543	23.02
Missouri:						
Barton	1	9,270	6	100	618	15.00
Boone	W	W	W	W	W	W
Callaway	1	30,371	10	315	3,151	9.64
Clark	1	3,667	3	200	600	6.11
Dade	1	11,277	6	285	1,711	6.59
Henry	W	W	W	W	W	W
Macon	W	W	W	W	W	W
Putnam	W	W	W	W	W	W
Vernon	2	61,382	25	220	5,540	11.08
Other counties	7	3,464,637	297	292	86,679	39.97
Total	13	3,580,604	347	283	98,299	36.43

See footnote at end of table.

Table 34.—Stripping operations in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of strip mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Montana (bituminous):						
Big Horn	W	W	W	W	W	W
Rosebud	W	W	W	W	W	W
Other counties	2	2,285	4	63	250	9.14
Total	2	2,285	4	63	250	9.14
Montana (lignite):						
Powder River	W	W	W	W	W	W
Richland	W	W	W	W	W	W
Other counties	2	326,651	15	245	3,671	88.98
Total	2	326,651	15	245	3,671	88.98
Total Montana	4	328,936	19	206	3,921	83.89
New Mexico:						
McKinley	W	W	W	W	W	W
San Juan	W	W	W	W	W	W
Other counties	3	2,363,854	129	262	33,782	69.97
Total	3	2,363,854	129	262	33,782	69.97
North Dakota (lignite):						
Adams	1	21,162	4	214	855	24.75
Bowman	W	W	W	W	W	W
Burke	W	W	W	W	W	W
Burleigh	1	5,808	2	144	288	20.17
Grant	3	17,924	5	159	793	22.60
Hettinger	W	W	W	W	W	W
McLean	W	W	W	W	W	W
Mercer	W	W	W	W	W	W
Morton	3	16,414	10	128	1,256	13.07
Oliver	W	W	W	W	W	W
Stark	W	W	W	W	W	W
Ward	W	W	W	W	W	W
Williams	1	8,000	2	120	288	27.73
Other counties	16	3,473,531	260	226	58,884	58.99
Total	25	3,542,839	283	220	62,364	56.81
Ohio:						
Athens	W	W	W	W	W	W
Belmont	22	3,126,391	477	263	125,558	24.90
Carroll	8	261,589	42	284	11,815	22.14
Columbiana	34	1,151,801	204	285	58,084	19.83
Coshocton	10	2,238,947	188	301	56,525	39.61
Gallia	7	180,569	63	142	8,992	20.08
Guernsey	6	1,814,175	164	238	39,048	46.46
Harrison	17	5,958,308	544	255	138,759	42.94
Hocking	7	75,035	30	209	6,327	11.86
Holmes	5	229,560	32	280	8,860	25.91
Jackson	17	771,661	119	246	29,219	26.41
Jefferson	39	3,732,517	567	260	147,530	25.30
Lawrence	W	W	W	W	W	W
Mahoning	14	501,102	92	251	23,146	21.65
Morgan	W	W	W	W	W	W
Muskingum	8	232,509	60	153	9,212	25.24
Noble	12	1,957,855	173	189	32,773	59.74
Perry	10	1,443,697	143	290	41,557	34.74
Stark	17	515,764	91	259	23,540	21.91
Tuscarawas	23	2,223,683	357	303	108,156	20.56
Vinton	5	138,991	40	257	10,334	13.45
Washington	W	W	W	W	W	W
Wayne	2	24,484	3	142	487	50.29
Other counties	11	1,967,191	277	217	60,204	32.68
Total	274	28,545,829	3,666	256	940,126	30.36

See footnote at end of table.

Table 34.—Stripping operations in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of strip mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
Oklahoma:						
Craig	5	204,785	52	253	13,272	15.43
Haskill	W	W	W	W	W	W
Muskogee	1	1,787	1	150	150	11.91
Okmulgee	1	2,494	2	100	166	15.00
Rogers	W	W	W	W	W	W
Other counties	3	625,105	133	204	27,094	23.07
Total	10	834,171	188	216	40,682	20.50
Pennsylvania:						
Allegheny	17	1,103,454	129	235	30,273	36.45
Armstrong	42	1,550,990	263	186	48,958	31.68
Beaver	7	183,438	44	199	8,748	20.97
Bedford	W	W	W	W	W	W
Blair	1	60,582	10	321	3,356	18.05
Bradford	W	W	W	W	W	W
Butler	40	1,473,671	298	249	74,240	19.85
Cambria	25	965,812	187	237	44,324	21.79
Centre	15	451,695	118	282	33,360	13.54
Clarion	77	3,279,720	463	231	106,866	30.69
Clearfield	97	5,872,348	1,183	268	317,081	18.52
Clinton	14	684,038	93	249	23,156	29.54
Elk	8	324,963	67	253	16,978	19.14
Fayette	21	282,803	96	150	14,451	19.57
Greene	5	115,403	23	142	3,266	35.33
Huntingdon	W	W	W	W	W	W
Indiana	29	871,328	172	225	38,743	22.49
Jefferson	43	916,371	233	220	51,337	17.85
Lawrence	27	1,128,651	178	286	50,909	22.17
Lycoming	4	102,540	28	183	5,119	20.03
McKean	1	24,662	20	66	1,320	18.68
Mercer	9	421,155	99	302	29,997	14.04
Somerset	70	2,746,663	482	236	113,781	24.14
Tioga	9	609,587	93	286	26,527	22.98
Venango	15	493,797	113	293	33,163	14.89
Washington	12	650,210	171	220	37,650	17.27
Westmoreland	24	326,102	103	170	17,467	18.67
Other counties	6	156,656	33	260	8,585	18.25
Total	618	24,796,639	4,699	243	1,139,655	21.76
South Dakota (lignite):						
Dewey	1	9,500	4	125	475	20.00
Tennessee:						
Anderson	10	597,327	62	241	14,959	39.93
Campbell	11	396,692	95	183	17,452	22.73
Claiborne	3	195,492	31	250	7,820	25.00
Cumberland	1	12,158	24	100	2,432	5.00
Fentress	1	7,000	5	100	467	15.00
Grundy	3	219,276	46	212	9,711	22.58
Hamilton	1	30,976	4	200	800	38.72
Marion	1	35,214	5	201	1,005	35.04
Morgan	7	250,923	62	126	7,795	32.19
Scott	2	37,296	8	180	1,476	25.27
Sequatchie	3	307,899	77	200	15,395	20.00
Van Buren	6	186,142	32	199	6,454	28.84
Total	49	2,276,395	451	190	85,766	26.54
Virginia:						
Buchanan	18	851,705	148	250	37,031	23.00
Dickenson	16	1,083,212	134	234	31,289	34.62
Lee	W	W	W	W	W	W
Russel	3	37,506	14	150	2,099	17.87
Tazewell	W	W	W	W	W	W
Wise	24	1,516,156	222	203	45,124	33.60
Other counties	5	152,001	40	209	8,366	18.17
Total	66	3,640,580	558	222	123,909	29.38
Washington: Lewis	1	2,944	1	131	129	22.90

See footnote at end of table.

Table 34.—Stripping operations in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of strip mines	Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
West Virginia:						
Barbour	11	1,314,157	191	195	37,302	35.23
Boone	6	1,221,189	157	260	40,706	30.00
Brooke	7	220,280	55	200	11,014	20.00
Fayette	10	714,049	147	179	26,329	27.12
Grant	W	W	W	W	W	W
Greenbrier	W	W	W	W	W	W
Hancock	2	4,764	6	36	218	21.85
Harrison	18	1,204,461	191	183	34,993	34.42
Kanawha	5	689,479	98	225	22,120	31.17
Lewis	W	W	W	W	W	W
Lincoln	3	9,854	16	86	1,369	7.19
Logan	W	W	W	W	W	W
Marion	W	W	W	W	W	W
Mason	W	W	W	W	W	W
McDowell	9	847,402	132	191	25,160	33.68
Mercer	9	175,121	29	200	5,837	30.00
Mineral	W	W	W	W	W	W
Monongalia	11	210,897	34	190	6,438	32.76
Nicholas	9	329,161	53	230	12,115	27.17
Preston	25	1,461,805	253	258	65,288	22.39
Raleigh	12	725,051	109	217	23,733	30.55
Randolph	6	129,675	38	198	7,453	17.40
Taylor	6	140,848	37	113	4,226	33.33
Tucker	4	558,062	41	204	8,378	66.61
Upshur	5	187,935	24	162	3,901	48.18
Webster	W	W	W	W	W	W
Wyoming	W	W	W	W	W	W
Other counties	21	2,141,253	386	229	88,502	24.19
Total	179	12,285,443	1,997	213	425,082	28.90
Wyoming:						
Campbell	1	475,170	30	253	7,595	62.56
Carbon	W	W	W	W	W	W
Converse	W	W	W	W	W	W
Lincoln	W	W	W	W	W	W
Sheridan	2	326,037	43	252	10,821	30.13
Other counties	6	2,745,887	178	247	44,034	62.36
Total	9	3,547,094	251	249	62,450	56.80
Total United States	1,572	180,058,163	21,752	247	5,363,505	33.57

W Withheld to avoid disclosing individual company data; included with "other counties."

Table 35.—Auger mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties

State and county	Number of auger mines	Equipment in use (number of units)				Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
		Augers	Power shovels	Power drills	Bull-dozers					
Alabama:										
Blount	1	1	---	---	---	5,000	5	50	250	20.00
Jefferson	1	1	---	---	---	20,264	20	50	1,013	20.00
Tuscaloosa	1	1	---	---	---	19,998	20	50	1,000	20.00
Walker	3	3	---	---	1	70,107	24	189	4,491	15.61
Total	6	6	---	---	1	115,369	69	98	6,754	17.08
Colorado: Fremont	1	1	---	---	---	5,337	2	180	360	14.83
Kentucky, Eastern:										
Bell	8	11	---	---	6	545,150	50	129	6,503	83.83
Breathitt	2	3	---	---	---	49,957	13	150	1,998	25.00
Clay	1	1	---	---	---	22,264	4	141	622	35.79
Floyd	W	W	W	W	W	W	W	W	W	W
Harlan	16	16	2	5	17	336,746	70	143	10,076	33.42
Johnson	W	W	W	W	W	W	W	W	W	W
Knott	13	13	---	---	3	347,129	41	165	6,789	51.13
Leslie	W	W	W	W	W	W	W	W	W	W
Letcher	17	16	---	4	9	590,458	49	201	9,915	59.55
Magoffin	1	1	---	---	2	90,537	6	150	905	100.00
Perry	17	17	1	2	19	1,325,253	143	166	23,720	55.87
Pike	44	45	---	1	11	1,598,480	241	119	28,662	55.77
Pulaski	1	1	---	---	1	24,642	8	100	821	30.00
Other counties	6	6	---	---	5	193,298	45	131	5,891	32.81
Total	126	130	3	12	73	5,123,914	670	143	95,902	53.43
Kentucky, Western:										
Butler	W	W	W	W	W	W	W	W	W	W
Ohio	W	W	W	W	W	W	W	W	W	W
Other counties	2	2	---	---	1	67,808	7	122	853	79.49
Total	2	2	---	---	1	67,808	7	122	853	79.49
Total Kentucky	128	132	3	12	74	5,191,722	677	143	96,755	53.66
Maryland:										
Allegany	1	1	---	---	1	1,695	2	50	85	20.00
Garrett	1	1	---	---	---	19,090	10	100	955	20.00
Total	2	2	---	---	1	20,785	12	150	1,040	19.99

Ohio:										
Athens	1	1	---	---	---	1,881	2	50	94	20.00
Belmont	6	5	---	---	4	205,183	23	108	2,464	83.27
Carroll	W	W	W	W	W	W	W	W	W	W
Columbiana	13	7	1	---	4	162,226	19	191	3,702	43.82
Coshocton	4	4	---	---	2	190,080	31	194	5,964	31.87
Gallia	2	1	---	---	1	67,290	10	88	871	77.23
Guernsey	1	1	---	---	---	30,396	2	99	201	150.85
Harrison	3	3	---	---	2	64,952	10	98	997	65.14
Hocking	W	W	W	W	W	W	W	W	W	W
Holmes	1	1	---	---	---	14,682	7	100	734	20.00
Jackson	2	2	---	---	1	50,029	6	119	723	69.16
Jefferson	10	9	---	1	6	216,928	25	107	2,697	80.42
Meigs	1	1	---	---	---	6,177	3	25	76	81.28
Noble	5	6	---	---	5	263,819	30	171	5,164	51.09
Perry	W	W	W	W	W	W	W	W	W	W
Stark	1	1	---	---	---	9,622	3	86	294	32.77
Tuscarawas	7	6	---	---	4	213,744	28	112	3,099	68.97
Washington	1	1	---	---	---	23,347	10	50	519	45.00
Other counties	5	5	2	---	2	215,273	34	113	3,849	55.93
Total	63	54	3	1	31	1,735,629	243	129	31,448	55.19
Oklahoma: Haskell	1	1	---	---	---	3,037	3	34	101	30.07
Pennsylvania:										
Allegheny	W	W	W	W	W	W	W	W	W	W
Armstrong	9	12	---	1	4	171,931	30	125	3,723	46.18
Beaver	W	W	W	W	W	W	W	W	W	W
Blair	1	1	---	---	---	11,245	3	102	307	36.61
Butler	5	8	---	---	---	132,794	17	183	3,109	42.71
Cambria	4	4	---	---	---	60,391	26	177	4,631	13.04
Clarion	1	1	---	---	---	14,790	3	100	296	50.00
Clearfield	9	9	---	9	---	131,757	33	152	5,027	26.21
Elk	5	4	---	---	1	24,504	9	99	883	27.76
Fayette	W	W	W	W	W	W	W	W	W	W
Huntingdon	W	W	W	W	W	W	W	W	W	W
Indiana	5	5	---	---	1	101,924	16	132	2,082	48.96
Jefferson	9	7	---	1	2	84,368	38	135	5,089	16.58
Lawrence	2	2	---	---	---	20,783	8	100	831	25.00
Mercer	1	1	---	---	---	2,810	3	50	141	20.00
Somerset	W	W	W	W	W	W	W	W	W	W
Washington	1	1	---	---	---	3,427	2	100	171	20.00
Westmoreland	W	W	W	W	W	W	W	W	W	W
Other counties	8	9	---	2	3	65,517	29	62	1,795	36.50
Total	60	64	---	13	11	826,241	217	129	28,085	29.42
Tennessee:										
Anderson	1	2	---	---	2	66,722	7	232	1,568	42.56
Campbell	5	4	---	---	2	106,955	12	157	1,869	57.22
Claiborne	2	2	1	---	1	32,384	11	122	1,372	23.61
Morgan	1	1	---	---	2	36,531	18	100	1,827	20.00
Scott	1	1	---	---	---	59,129	8	160	1,280	46.19
Total	10	10	1	---	7	301,721	56	141	7,916	38.12

See footnote at end of table.

Table 35.—Auger mines in the bituminous coal and lignite fields of the United States, in 1966, by States and counties—Continued

State and county	Number of auger mines	Equipment in use (number of units)				Production (short tons)	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day
		Augers	Power shovels	Power drills	Bull-dozers					
Virginia:										
Buchanan	34	38	1	2	31	1,078,942	128	189	24,181	44.62
Dickerson	8	9	---	1	6	470,059	70	240	16,878	27.85
Lee	W	W	W	W	W	W	W	W	W	W
Russell	2	2	---	---	1	30,875	15	100	1,544	20.00
Tazewell	W	W	W	W	W	W	W	W	W	W
Wise	17	17	---	3	13	535,185	60	155	9,235	57.95
Other counties	4	3	---	1	3	63,891	21	196	4,112	15.54
Total	65	69	1	7	54	2,178,952	294	190	55,950	38.94
West Virginia:										
Barbour	W	W	W	W	W	W	W	W	W	W
Boone	7	10	2	---	11	1,282,513	106	209	22,235	57.68
Brooke	W	W	W	W	W	W	W	W	W	W
Fayette	6	7	1	2	7	275,278	52	192	9,974	27.60
Greenbrier	W	W	W	W	W	W	W	W	W	W
Harrison	5	4	1	2	4	56,206	14	70	973	57.74
Kanawha	10	11	2	1	9	857,709	117	192	22,441	38.22
Logan	12	15	1	4	23	814,926	159	98	15,555	52.39
McDowell	11	11	---	---	9	221,434	62	99	6,117	36.20
Mercer	W	W	W	W	W	W	W	W	W	W
Mingo	8	10	---	---	11	346,671	78	101	7,874	44.03
Monongalia	5	5	---	---	3	61,449	31	100	3,072	20.00
Nicholas	W	W	W	W	W	W	W	W	W	W
Preston	W	W	W	W	W	W	W	W	W	W
Raleigh	9	11	1	1	7	442,469	48	208	10,004	44.23
Randolph	1	1	---	---	1	11,108	3	150	444	25.00
Upshur	2	2	---	---	2	36,100	8	78	620	58.23
Webster	W	W	W	W	W	W	W	W	W	W
Wyoming	10	10	---	---	10	377,437	87	133	11,567	32.63
Other counties	14	13	---	---	8	136,599	48	105	5,029	27.16
Total	100	110	8	10	105	4,919,899	813	143	115,905	42.45
Total United States	436	449	16	43	284	15,298,692	2,386	144	344,314	44.43

W Withheld to avoid disclosing individual company data; included with "Other counties."

Table 36.—Growth of mechanical loading at underground bituminous coal and lignite mines in the United States

	1960	1961	1962	1963	1964	1965	1966
Underground production:							
Mechanically loaded:							
Conventional mining:							
Mobile loading machines thousand short tons	162,109	145,134	145,962	150,303	152,409	151,409	152,672
Duckbills and scrapers do	1,232	1,032	488	457	313	273	287
Hand-loaded conveyers do	4,517	4,863	4,296	4,131	3,702	3,013	2,269
Continuous mining do	77,928	84,321	90,174	104,350	124,677	141,938	155,053
Total do	245,786	235,350	240,920	259,241	281,101	296,633	310,281
Hand-loaded do	39,102	37,416	40,346	43,015	40,707	36,028	28,243
Total underground production do	284,888	272,766	281,266	302,256	321,808	332,661	338,524
Percentage of underground production:							
Mechanically loaded	86.3	86.3	85.7	85.8	87.4	89.2	91.7
Hand-loaded	13.7	13.7	14.3	14.2	12.6	10.8	8.3
Number of mechanical loading units:							
Mobile loading machines used in conventional mining [1]	2,707	2,348	2,235	2,186	2,159	2,102	2,255
Duckbills and scrapers	159	130	100	81	73	46	40
Hand-loaded conveyors	931	867	825	680	585	472	388
Continuous mining machines	879	927	961	1,030	1,111	1,218	1,325
Mobile loading machines used in conjunction with continuous mining	245	235	267	249	237	292	284

[1] Mobile loading machines used in conjunction with continuous mining shown separately in last column of this table.

Table 37.—Bituminous coal and lignite mechanically loaded underground in the United States, by type of loading equipment

Type of loading equipment	1965		1966	
	Short total	Percentage of total	Short tons	Percentage of total
Mobile machines:				
Direct into mine cars	9,976,410	3.4	15,646,820	5.0
Onto conveyors	8,230,804	1.1	2,442,192	.8
Into shuttle cars	138,202,034	46.6	134,583,198	43.4
Continuous-mining machines:				
Onto conveyors	17,113,169	5.7	21,391,415	6.9
Into shuttle cars	124,825,233	42.1	133,661,496	43.1
Scrapers and conveyors equipped with duckbills or other self-loading heads	272,585	.1	286,446	.1
Hand-loaded conveyors	3,012,756	1.0	2,269,408	.7
Total mechanically loaded	296,632,991	100.0	310,280,975	100.0

Table 38.—Comparative changes in underground mechanical loading of bituminous coal and lignite by principal types of loading devices in the United States, by States

State	Loading machines[1] (short tons)		Continuous-mining machines (short tons)		Hand-loaded conveyors (short tons)		Total mechanically loaded (short tons)		Total production at mines using mechanical loading devices (short tons)		Handled by each class (percent)					
											Loading machines[1]		Continuous mining machines		Hand-loaded conveyors	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	8,857,719	7,757,597	100,000	444,663	218,945	137,638	9,176,664	8,339,898	9,176,664	8,339,898	96.5	93.0	1.1	5.3	2.4	1.7
Arkansas	---	---	---	---	74,295	63,545	74,295	63,545	74,295	63,545	---	---	---	---	100.0	100.0
Colorado	1,396,813	1,085,480	1,892,199	2,327,983	205,400	168,049	3,494,412	3,581,512	3,498,816	3,582,671	40.0	30.3	54.1	65.0	5.9	4.7
Illinois	15,717,831	13,259,857	10,082,740	14,192,248	---	---	25,800,571	27,452,105	25,800,571	27,452,105	60.9	48.3	39.1	51.7	---	---
Indiana	2,341,156	1,853,301	---	---	---	---	2,341,156	1,853,301	2,341,156	1,853,301	100.0	100.0	---	---	---	---
Iowa	166,728	246,447	---	---	---	---	166,728	246,447	166,728	246,447	100.0	100.0	---	---	---	---
Kentucky	31,711,655	38,517,964	7,104,461	6,785,620	193,311	107,956	39,009,427	45,411,540	39,420,727	45,522,841	81.3	84.8	18.2	15.0	.5	.2
Maryland	137,684	136,045	140,054	160,032	5,757	2,630	283,495	298,707	283,795	298,707	48.6	45.5	49.4	53.6	2.0	.9
Montana	53,900	84,110	---	---	1,814	---	55,714	84,110	57,914	86,210	96.7	100.0	---	---	3.3	---
New Mexico	---	---	421,262	385,382	---	---	421,262	385,382	421,262	385,382	---	---	100.0	100.0	---	---
Ohio	5,699,355	5,836,347	5,169,253	6,929,613	51,666	30,153	10,920,274	12,796,113	10,941,203	12,796,113	52.2	45.6	47.3	54.2	.5	.2
Oklahoma	---	---	---	---	6,657	4,803	6,657	4,803	6,657	4,803	---	---	---	---	100.0	100.0
Pennsylvania	9,807,994	9,471,514	43,764,748	44,942,458	684,546	565,313	54,257,288	54,979,285	54,358,763	55,062,845	18.1	17.2	80.6	81.8	1.3	1.0
Tennessee	1,645,802	1,984,810	552,434	604,318	198,817	195,274	2,397,053	2,784,402	2,426,564	2,818,159	68.7	71.3	23.0	21.7	8.3	7.0
Utah	1,680,118	1,087,731	3,302,505	3,540,536	6,918	7,063	4,989,541	4,635,330	4,989,541	4,635,330	33.7	23.5	66.2	76.4	.1	.1
Virginia	10,763,337	11,799,399	5,897,656	8,081,963	147,104	106,988	16,808,097	19,988,350	17,831,267	20,731,884	64.0	59.0	35.1	40.4	.9	.6
Washington	43,275	32,321	---	---	8,825	23,372	52,100	55,693	52,100	55,693	83.1	58.0	---	---	16.9	42.0
West Virginia	61,536,634	59,684,736	63,511,090	66,658,095	1,206,695	854,578	126,254,419	127,197,409	126,456,638	127,296,205	48.7	46.9	50.3	52.4	1.0	.7
Wyoming	121,832	120,997	---	---	2,006	2,046	123,838	123,043	123,838	123,043	98.4	98.3	---	---	1.6	1.7
Total	151,681,833	152,958,656	141,938,402	155,052,911	3,012,756	2,269,408	296,632,991	310,280,975	298,428,499	311,355,182	51.1	49.3	47.9	50.0	1.0	.7

[1] Includes mobile loading machines, scrapers, and conveyors equipped with duckbills or other self-loading heads.

Table 39.—Number of bituminous coal and lignite underground mines using mechanical loading devices and number of units in use in the United States, by States

State	Number of mines									Number of loading devices							
	Using loading machines only [1]		Using continuous mining machines only		Using hand-loaded conveyors only		Using both continuous and conventional mining machines with mechanical loading		Total		Loading machines						Hand-loaded conveyors (number of units)	
											Mobile [2]		Scrapers and duckbills or other self-loading conveyors		Continuous mining machines			
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	17	13	---	---	2	4	1	6	20	23	87	92	4	1	1	6	25	27
Arkansas	---	---	---	---	4	4	---	---	4	4	---	---	---	---	---	---	13	13
Colorado	34	30	8	8	13	12	6	6	61	56	73	66	15	9	28	31	35	37
Illinois	27	19	7	8	---	---	3	5	37	32	82	79	2	---	55	65	---	---
Indiana	16	11	---	---	---	---	---	---	16	11	49	33	---	---	---	---	---	---
Iowa	2	2	---	---	---	---	---	---	2	2	5	6	---	---	---	---	---	---
Kentucky	301	384	16	24	11	5	13	16	341	429	519	608	---	9	63	72	32	12
Maryland	4	3	2	2	2	1	---	---	8	6	8	6	---	---	3	3	3	1
Montana	6	6	---	---	1	---	---	---	7	6	5	7	7	6	---	---	2	---
New Mexico	---	---	1	2	---	---	---	---	1	2	4	7	---	---	4	7	---	---
Ohio	18	25	5	8	5	5	2	3	30	41	53	59	2	---	52	59	9	9
Oklahoma	---	---	---	---	2	2	---	---	2	2	---	---	---	---	---	---	2	2
Pennsylvania	52	55	98	111	66	52	25	21	241	239	286	236	4	---	408	435	142	113
Tennessee	19	31	3	2	20	12	2	2	44	47	37	51	---	---	9	8	35	30
Utah	19	13	6	8	---	---	5	4	30	25	76	56	3	2	33	29	3	2
Virginia	152	231	24	38	3	8	7	8	186	285	178	265	---	---	56	80	7	16
Washington	3	3	---	---	1	1	---	---	4	4	3	3	---	---	---	---	3	3
West Virginia	313	376	105	138	58	39	109	112	585	665	924	961	4	8	506	585	160	122
Wyoming	4	4	---	---	1	1	---	---	5	5	5	4	5	5	---	---	1	1
Total	987	1,206	275	349	189	146	173	183	1,624	1,884	2,394	2,539	46	40	1,218	1,380	472	388

[1] Includes mobile loading machines, scrapers, and conveyors equipped with duckbills or other self-loading heads.
[2] Includes mobile loading machines used in conjunction with continuous mining.

Table 40.—Production at bituminous coal and lignite underground mines in the United States, by States and methods of loading

State	Hand loaded (short tons)		Mechanically loaded (short tons)		Total underground production (short tons)		Underground output hand loaded (percent)		Underground output mechanically loaded (percent)	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Alabama	745,963	560,281	9,176,664	8,339,898	9,922,627	8,900,179	7.5	6.3	92.5	93.7
Arkansas	-----	-----	74,295	63,545	74,295	63,545	-----	-----	100.0	100.0
Colorado	25,917	19,064	3,494,412	3,581,512	3,520,329	3,600,576	.7	.5	99.3	99.5
Illinois	13,054	6,341	25,800,571	27,452,105	25,813,625	27,458,446	.1	-----	99.9	100.0
Indiana	14,151	7,616	2,341,156	1,853,301	2,355,307	1,860,917	.6	.4	99.4	99.6
Iowa	29,756	17,495	166,728	246,447	196,484	263,942	15.1	6.6	84.9	93.4
Kentucky	11,678,807	10,401,446	39,009,427	45,411,540	50,688,234	55,812,986	23.0	18.6	77.0	81.4
Maryland	151,606	130,774	283,495	298,707	435,101	429,481	34.8	30.4	65.2	69.6
Missouri	25,701	1,600	-----	-----	25,701	1,600	100.0	100.0	-----	-----
Montana:										
Bituminous	5,330	4,515	55,714	84,110	61,044	88,625	8.7	5.1	91.3	94.9
Lignite	2,970	1,619	-----	-----	2,970	1,619	100.0	100.0	-----	-----
Total	8,300	6,134	55,714	84,110	64,014	90,244	13.0	6.8	87.0	93.2
New Mexico	13,058	6,060	421,262	385,382	434,320	391,442	3.0	1.5	97.0	98.5
North Dakota (lignite)	1,341	-----	-----	-----	1,341	-----	100.0	-----	-----	-----
Ohio	347,307	263,860	10,920,274	12,796,113	11,267,581	13,059,973	3.1	2.0	96.9	98.0
Oklahoma	2,175	1,488	6,657	4,803	8,832	6,291	24.6	23.7	75.4	76.3
Pennsylvania	1,417,612	840,636	54,257,288	54,979,285	55,674,900	55,819,921	2.5	1.5	97.5	98.5
Tennessee	1,184,081	946,006	2,397,053	2,784,402	3,581,134	3,730,408	33.1	25.4	66.9	74.6
Utah	2,462	-----	4,989.541	4,635,330	4,992,003	4,635,330	.1	-----	99.9	100.0
Virginia	12,557,092	9,756,629	16,808,097	19,988,350	29,365,189	29,744,979	42.8	32.8	57.2	67.2
Washington	-----	-----	52,100	55,693	52,100	55,693	-----	-----	100.0	100.0
West Virginia	7,809,862	5,277,950	126,254,419	127,197,409	134,064,281	132,475,359	5.8	4.0	94.2	96.0
Wyoming	-----	-----	123,838	123,043	123,838	123,043	-----	-----	100.0	100.0
Total	36,028,245	28,243,380	296,632,991	310,280,975	332,661,236	338,524,355	10.8	8.3	89.2	91.7

Table 41.—Growth of mechanical cleaning at bituminous coal and lignite mines in the United States

Year	Total production (thousand short tons)	Mechanical cleaning: Number of cleaning plants	Raw coal (thousand short tons)	Cleaned coal (thousand short tons)	Refuse (thousand short tons)	Percentage of refuse to raw coal	Percentage of total production mechanically cleaned
1960	415,512	535	337,686	273,169	65,517	19.3	65.7
1961	402,977	503	328,200	264,711	63,489	19.3	65.7
1962	422,149	508	339,408	271,633	67,775	20.0	64.3
1963	458,928	499	362,141	289,462	72,679	20.1	63.1
1964	486,998	495	388,134	310,203	77,931	20.1	63.7
1965	512,088	497	419,046	332,256	86,790	20.7	64.9
1966	533,881	486	435,040	340,626	94,414	21.7	63.8

Table 42.—Mechanical cleaning at bituminous coal and lignite mines in the United States, in 1966, by States

State	Total production (short tons)	Mechanical cleaning: Number of cleaning plants	Raw coal (short tons)	Cleaned coal (short tons)	Refuse (short tons)	Percentage of refuse to raw coal	Percentage of total production mechanically cleaned
Alabama	14,218,722	27	17,313,086	10,379,654	6,933,432	40.0	73.0
Alaska	927,145	4	660,817	388,361	272,456	41.2	41.9
Arkansas	235,748	(1)	(1)	(1)	(1)	(1)	(1)
Colorado	5,222,372	5	2,975,506	2,445,055	530,451	17.8	46.8
Illinois	63,571,188	49	63,166,818	51,479,676	11,687,142	18.5	81.0
Indiana	17,326,350	11	17,409,367	13,913,785	3,495,582	20.1	80.3
Kansas	1,121,546	3	1,615,283	1,114,385	500,898	31.0	99.4
Kentucky	93,155,877	54	57,270,331	47,127,613	10,142,718	17.7	50.6
Missouri	3,582,204	5	3,257,684	1,984,916	1,272,768	39.1	55.4
Montana (bituminous)	90,910	(1)	(1)	(1)	(1)	(1)	(1)
New Mexico	2,755,296	2	582,654	385,382	197,272	33.9	14.0
Ohio	43,341,431	21	20,104,047	16,181,304	3,922,743	19.5	37.3
Oklahoma	843,499	1	183,729	141,590	42,139	22.9	16.8
Pennsylvania	81,442,801	94	72,076,850	55,800,065	16,276,785	22.6	68.5
Tennessee	6,308,524	2	752,931	521,718	231,213	30.7	8.3
Utah	4,635,330	5	3,446,091	3,038,900	407,191	11.8	65.6
Virginia	35,564,511	36	23,064,924	17,345,991	5,718,933	24.8	48.8
Washington	58,637	2	66,574	55,693	10,881	16.3	95.0
West Virginia	149,680,701	162	150,952,760	118,189,996	32,762,764	21.7	79.0
Wyoming	3,670,137	[2] 3	[2] 140,465	[2] 131,543	[2] 8,922	[2] 6.4	[2] 3.3
Other states [3]	6,128,281	---	---	---	---	---	---
Total	533,881,210	486	435,039,917	340,625,627	94,414,290	21.7	63.8

[1] Included in Wyoming.
[2] Includes Arkansas and Montana bituminous.
[3] Includes Iowa, Maryland and lignite from Montana, North Dakota and South Dakota.

Table 43.—Mechanical cleaning of bituminous coal and lignite in the United States, by types of equipment

Year	Wet methods: Jigs	Wet methods: Concentrating tables	Wet methods: Classifiers	Wet methods: Launders	Wet methods: Dense-medium processes	Wet methods: Unclassified [1]	Wet methods: Total	Pneumatic methods	Grand total
				CLEAN COAL (THOUSAND SHORT TONS)					
1960	136,633	30,741	11,012	7,561	66,251	2,832	255,030	18,139	273,169
1961	133,360	30,158	9,263	6,529	65,148	2,562	247,020	17,691	264,711
1962	136,879	31,859	5,681	5,986	68,565	3,959	252,929	18,704	271,633
1963	142,540	37,492	5,558	5,221	74,177	4,539	269,527	19,935	289,462
1964	145,918	40,878	6,725	6,000	84,159	5,123	288,803	21,400	310,203
1965	151,541	43,197	5,844	4,801	94,636	6,853	306,872	25,384	332,256
1966	156,789	45,427	4,775	4,691	97,301	7,438	316,421	24,205	340,626
				PERCENTAGE CLEANED					
1960	50.0	11.3	4.0	2.8	24.3	1.0	93.4	6.6	100.0
1961	50.4	11.4	3.5	2.4	24.6	1.0	93.3	6.7	100.0
1962	50.4	11.7	2.1	2.2	25.2	1.5	93.1	6.9	100.0
1963	49.2	13.0	1.9	1.8	25.6	1.6	93.1	6.9	100.0
1964	47.0	13.2	2.2	1.9	27.1	1.7	93.1	6.9	100.0
1965	45.6	13.0	1.8	1.4	28.5	2.1	92.4	7.6	100.0
1966	46.0	13.3	1.4	1.4	28.6	2.2	92.9	7.1	100.0

[1] Of the total unclassified tonnage in 1960, 1,826,000 short tons was cleaned by flotation. In 1961–66, all of the tonnage under "Unclassified" was cleaned by flotation.

Table 44.—Mechanical cleaning at bituminous coal and lignite mines in the United States, by underground, strip, and auger mining

Year	Total production (short tons)	Cleaned: Short tons	Cleaned: Percent	Total production (short tons)	Cleaned: Short tons	Cleaned: Percent
	Underground mine			Strip mine		
1960	284,888,310	205,804,076	72.2	122,629,664	66,356,125	54.1
1961	272,765,985	199,359,507	73.1	121,979,084	64,500,929	52.9
1962	281,266,368	200,662,784	71.3	130,300,224	69,489,985	53.3
1963	302,256,400	215,717,996	71.4	144,140,677	72,032,483	50.0
1964	321,807,914	231,997,577	72.1	151,858,979	76,339,834	50.3
1965	332,661,236	251,673,749	75.7	165,240,769	78,126,001	47.3
1966	338,524,355	253,266,696	74.8	180,058,163	85,656,601	47.6
	Auger mines			Total, all mines		
1960	7,994,373	1,008,493	12.6	415,512,347	273,168,694	65.7
1961	8,231,733	850,506	10.3	402,976,802	264,710,942	65.7
1962	10,582,733	1,479,830	14.0	422,149,325	271,632,599	64.3
1963	12,531,098	1,711,926	13.7	458,928,175	289,462,405	63.1
1964	13,331,059	1,865,331	14.0	486,997,952	310,202,742	63.7
1965	14,186,258	2,456,113	17.3	512,088,263	332,255,863	64.9
1966	15,298,692	1,702,330	11.1	533,881,210	340,625,627	63.8

Table 45.—Mechanical cleaning at bituminous coal and lignite mines in the United States, in 1966, by States and by underground, strip, and auger mining

State	Underground mines			Strip mines			Auger mines			Total, all mines		
	Total production (short tons)	Cleaned		Total production (short tons)	Cleaned		Total production (short tons)	Cleaned		Total production (short tons)	Cleaned	
		Short tons	Percent		Short tons	Percent		Short tons	Percent		Short tons	Percent
Alabama	8,900,179	8,305,258	93.3	5,203,174	2,049,818	39.4	115,369	24,578	21.3	14,218,722	10,379,654	73.0
Alaska	---	---	---	927,145	388,361	41.9	---	---	---	927,145	388,361	41.9
Arkansas	63,545	(1)	(1)	172,203	(1)	(1)	---	---	---	235,748	(1)	(1)
Colorado	3,600,576	2,445,055	67.9	1,616,459	---	---	5,337	---	---	5,222,372	2,445,055	46.8
Illinois	27,458,446	20,391,995	74.3	36,112,742	31,087,681	86.1	---	---	---	63,571,188	51,479,676	81.0
Indiana	1,860,917	1,566,235	84.2	15,465,433	12,347,550	79.8	---	---	---	17,326,350	13,913,785	80.3
Kansas	---	---	---	1,121,546	1,114,385	99.4	---	---	---	1,121,546	1,114,385	99.4
Kentucky	55,812,986	28,950,891	51.9	32,151,169	18,152,119	56.5	5,191,722	24,603	.5	93,155,877	47,127,613	50.6
Missouri	1,600	---	---	3,580,604	1,984,916	55.4	---	---	---	3,582,204	1,984,916	55.4
Montana (bituminous)	88,625	(1)	(1)	2,285	(1)	(1)	---	---	---	90,910	(1)	(1)
New Mexico	391,442	385,382	98.5	2,363,854	---	---	---	---	---	2,755,296	385,382	14.0
Ohio	13,059,973	9,753,539	74.7	28,545,829	6,138,956	21.5	1,735,629	288,809	16.6	43,341,431	16,181,304	37.3
Oklahoma	6,291	800	12.7	834,171	137,753	16.5	3,037	3,037	100.0	843,499	141,590	16.8
Pennsylvania	55,819,921	47,186,634	84.5	24,796,639	8,454,628	34.1	826,241	158,803	19.2	81,442,801	55,800,065	68.5
Tennessee	3,730,408	521,718	14.0	2,276,395	---	---	301,721	---	---	6,308,524	521,718	8.3
Utah	4,635,330	3,038,900	65.6	---	---	---	---	---	---	4,635,330	3,038,900	65.6
Virginia	29,744,979	16,508,798	55.5	3,640,580	682,195	18.7	2,178,952	154,998	7.1	35,564,511	17,345,991	48.8
Washington	55,693	55,693	100.0	2,944	---	---	---	---	---	58,637	55,693	95.0
West Virginia	132,475,359	114,060,255	86.1	12,285,443	3,082,239	25.1	4,919,899	1,047,502	21.3	149,680,701	118,189,996	79.0
Wyoming	123,043	[2] 95,543	[2] 34.7	3,547,094	[2] 36,000	[2] 1.0	---	---	---	3,670,137	[2] 131,543	[2] 3.3
Other States [3]	695,042	---	---	5,412,454	---	---	20,785	---	---	6,128,281	---	---
Total	338,524,355	253,266,696	74.8	180,058,163	85,656,601	47.6	15,298,692	1,702,330	11.1	533,881,210	340,625,627	63.8

[1] Included in Wyoming.
[2] Includes Arkansas and Montana bituminous.
[3] Includes Iowa, Maryland, and lignite from Montana, North Dakota and South Dakota.

Table 46.—Mechanical crushing of bituminous coal and lignite at mines in the United States

Year	Number of plants crushing coal	Coal crushed (short tons)	Percentage of total production crushed
1960	1,348	160,875,418	38.7
1961	1,217	146,765,297	36.4
1962	1,202	159,654,414	37.8
1963	1,288	183,006,848	39.9
1964	1,293	209,119,640	42.9
1965	1,094	234,563,123	45.8
1966	1,060	247,206,766	46.3

Table 47.—Mechanical crushing of bituminous coal and lignite at mines in the United States, by States

State	Number of plants crushing coal		Coal crushed (short tons)		Percentage of total production crushed	
	1965	1966	1965	1966	1965	1966
Alabama	28	26	6,791,656	7,320,064	45.8	51.5
Alaska	2	2	570,054	600,477	63.8	64.8
Arkansas	7	7	195,313	209,470	86.5	88.9
Colorado	42	37	2,289,972	2,823,446	47.8	54.1
Illinois	74	67	29,423,246	33,194,910	50.3	52.2
Indiana	37	26	11,984,741	13,421,385	77.0	77.5
Iowa	20	19	818,108	789,141	78.4	77.0
Kansas	2	1	849,689	840,562	64.9	74.9
Kentucky	115	124	34,538,119	37,918,029	40.3	40.7
Maryland	11	10	327,513	649,830	27.1	53.2
Missouri	8	9	3,000,632	3,092,705	84.2	86.3
Montana:						
Bituminous	6	2	18,175	22,147	28.9	24.4
Lignite	1	2	296,554	324,240	98.4	98.8
Total	7	4	314,729	346,387	86.4	82.6
New Mexico	4	5	3,196,855	2,745,409	99.5	99.6
North Dakota (lignite)	15	17	1,996,272	3,020,734	73.1	85.3
Ohio	111	121	20,255,370	21,909,840	51.4	50.6
Oklahoma	8	6	788,365	658,145	80.9	76.2
Pennsylvania	214	210	41,823,817	41,359,765	52.1	50.8
South Dakota (lignite)	1	---	4,000	---	40.0	---
Tennessee	22	22	2,346,645	2,073,757	40.0	32.9
Utah	30	22	3,615,091	3,042,800	72.4	65.6
Virginia	54	69	11,885,468	13,674,460	34.9	38.4
Washington	3	4	4,963	6,590	9.1	11.2
West Virginia	270	244	54,444,544	53,991,063	36.5	36.1
Wyoming	9	8	3,097,961	3,517,797	95.0	95.8
Total	1,094	1,060	234,563,123	247,206,766	45.8	46.3

Table 48.—Treatment of bituminous coal and lignite at mines for allaying dust in the United States [1]

	1960	1961	1962	1963	1964	1965	1966
Grand total production short tons	415,512,347	402,976,802	422,149,325	458,928,175	486,997,952	512,088,263	533,881,210
Percentage of total production treated	13.9	12.3	11.8	11.1	10.7	10.4	9.6
Short tons treated with:							
Calcium chloride	4,576,176	3,616,536	3,128,468	2,405,209	1,413,348	1,357,945	349,543
Oil	46,241,261	39,130,370	39,822,318	40,834,328	39,578,713	40,609,603	40,566,135
Calcium chloride and oil	4,333,350	3,448,677	3,025,489	2,674,714	2,641,817	1,852,055	2,503,931
All other materials	2,469,508	3,385,980	4,047,823	5,254,795	8,680,431	9,197,697	7,718,110
Total	57,620,295	49,581,563	50,024,098	51,169,046	52,314,309	53,017,300	51,137,719
Number of plants treated with:							
Calcium chloride	64	48	36	32	19	15	17
Oil	635	544	534	579	505	459	481
Calcium chloride and oil	56	32	32	24	29	11	20
All other materials	26	32	44	35	41	40	28
Total [2]	748	643	638	661	603	525	546
Percentage of tonnage treated with:							
Calcium chloride	7.9	7.3	6.3	4.7	2.7	2.6	.7
Oil	80.3	78.9	79.6	79.8	75.7	76.6	79.3
Calcium chloride and oil	7.5	7.0	6.0	5.2	5.0	3.5	4.9
All other materials	4.3	6.8	8.1	10.3	16.6	17.3	15.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Data include all mines producing 1,000 or more tons.
[2] Because some mines used more than one method of treatment, this total may not necessarily be the sum of the individual items.

Table 49.—Treatment of bituminous coal and lignite at mines for allaying dust in the United States, by States

State	Number of mines treating coal		Coal treated (short tons)		Percentage of total production treated	
	1965	1966	1965	1966	1965	1966
Alabama	2	2	60,632	2,400	0.4	0.1
Colorado	36	32	212,923	213,169	4.4	4.1
Illinois	59	54	5,450,007	4,590,044	9.3	7.2
Indiana	26	17	1,131,588	1,049,579	7.3	6.1
Iowa	3	5	6,150	26,450	.6	2.6
Kansas	3	3	21,378	18,439	1.6	1.6
Kentucky	58	58	8,301,749	7,216,741	9.7	7.7
Maryland	1	1	13,390	12,118	1.1	1.0
Missouri	2	2	23,660	17,531	.7	.5
Montana:						
Bituminous	6	5	20,082	15,800	31.9	17.4
Lignite	---	1	---	495	---	.2
Total	6	6	20,082	16,295	5.5	3.9
New Mexico	3	3	2,771,593	2,357,127	86.3	85.5
North Dakota (lignite)	19	18	485,532	586,219	17.8	16.5
Ohio	33	31	4,921,475	4,524,637	12.5	10.4
Oklahoma	3	3	23,000	22,000	2.4	2.6
Pennsylvania	63	63	7,911,721	7,392,155	9.9	9.1
South Dakota (lignite)	1	---	4,000	---	40.0	---
Tennessee	3	2	16,058	34,718	.3	.6
Utah	23	20	902,784	902,343	18.1	19.5
Virginia	29	28	3,016,093	5,167,343	8.9	14.5
West Virginia	128	117	17,571,465	16,855,829	11.8	11.3
Wyoming	8	9	152,020	132,582	4.7	3.6
Total	509	474	53,017,300	51,137,719	10.4	9.6

Table 50.—Thermal drying of bituminous coal and lignite in the United States, by type of drying equipment

Type of drier	Number of thermal drying units		Thermally dried (short tons)		Percentage of total	
	1965	1966	1965	1966	1965	1966
Continuous carrier	4	4	762,322	527,224	1.2	0.7
Fluidized-bed	57	57	27,331,871	30,748,927	41.8	43.5
Multilouver	46	55	12,334,291	14,799,681	18.9	21.0
Rotary	8	6	1,532,340	1,797,337	2.3	2.5
Screen	48	42	8,123,116	7,306,179	12.4	10.4
Suspension or flash	46	43	10,434,967	10,457,333	16.0	14.8
Vertical tray and cascade	42	35	4,842,692	4,982,757	7.4	7.1
Total	251	242	65,361,599	70,619,438	100.0	100.0

Table 51.—Comparison of thermal drying of bituminous coal and lignite with mechanical cleaning at mines in the United States, by States

State	Cleaning plants, number				Production mechanically cleaned (short tons)		Thermally dried (short tons)		Percentage of cleaned coal thermally dried	
	Total		With thermal drying							
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Illinois	49	49	25	26	48,097,668	51,479,676	10,841,774	12,790,886	22.5	24.8
Indiana	15	11	10	7	12,393,644	13,913,785	3,338,462	2,669,031	26.9	19.2
Kentucky	60	54	8	9	45,048,897	47,127,613	2,617,219	2,453,308	5.8	5.2
Montana (bituminous)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
North Dakota (lignite)	---	---	4	4	---	---	272.600	148,500	---	---
Ohio	22	21	9	8	14,309,157	16,181,304	3,465,216	4,007,211	24.2	24.8
Pennsylvania	101	94	17	20	55,700,061	55,800,065	8,144,995	6,894,747	14.6	12.4
Utah [2]	8	6	3	3	3,463,533	3,057,630	1,080,345	1,119,709	31.2	36.6
Virginia	33	36	5	5	16,906,425	17,345,991	5,937,709	7,705,163	35.1	44.4
West Virginia	160	162	52	53	118,800,359	118,189,996	29,663,279	32,830,883	25.0	27.8
Other States	49	53	---	---	17,536,119	17,529,567	---	---	---	---
Total	497	486	133	135	332,255,863	340,625,627	65,361,599	70,619,438	[3] 19.7	[3] 20.7

[1] Included in Utah.
[2] Includes Montana.
[3] Excludes North Dakota.

Table 52.—Thermal drying of bituminous coal and lignite at mines in the United States, by States

State	Number of thermal drying units		Grand total production (short tons)		Thermally dried (short tons)		Percentage of total production thermally dried	
	1965	1966	1965	1966	1965	1966	1965	1966
Illinois	53	54	58,483,208	63,571,188	10,841,774	12,790 886	18.5	20.1
Indiana	22	12	15,565,409	17,326,350	3,338,462	2,669,031	21.4	15.4
Kentucky	11	18	85,765,711	93,155,877	2,617,219	2,453,308	3.1	2.6
Montana	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
North Dakota (lignite)	4	4	2,731,935	3,542,839	272,600	148,500	10.0	4.2
Ohio	20	19	39,389,721	43,341,431	3,465,216	4,007,211	8.8	9.2
Pennsylvania	26	20	80,308,449	81,442,801	8,144,995	6,894,747	10.1	8.5
Utah [2]	4	3	5,356,476	5,054,510	1,080,345	1,119,709	21.6	22.2
Virginia	17	17	34,052,915	35,564,511	5,937,709	7,705,163	17.4	21.7
West Virginia	94	95	149,191,208	149,680,701	29,663,279	32,830,883	19.9	21.9
Other States	---	---	41,243,231	41,201,002	---	---		---
Total	251	242	512,088,263	533,881,210	65,361,599	70,619,438	12.8	13.2

[1] Included in Utah.
[2] Includes Montana.

Table 53.—Production, value, men working daily, days active, man–days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties

County	Production (short tons)				Average value per ton[3]	Average number of men working daily	Average number of days worked	Number of man–days worked	Average tons per man per day[4]
	Shipped by rail or water[1]	Shipped by truck	Used at mine[2]	Total					
				ALABAMA					
Bibb	48,645	90,880	---	139,525	$5.27	51	181	9,247	15.09
Blount	146,713	35,327	44	182,084	5.95	103	175	18,058	10.08
Cullman	---	2,200	---	2,200	7.29	4	100	440	5.00
Etowah	W	W	W	W	W	W	W	W	W
Jackson	534,463	10,420	---	544,883	3.62	53	273	14,492	37.60
Jefferson	6,254,161	759,317	160	7,013,638	8.06	3,167	209	663,125	10.58
Marion	176,638	322,707	---	499,345	4.75	298	220	65,527	7.62
Shelby	472,179	49,783	---	521,962	9.21	238	229	54,599	9.56
Tuscaloosa	1,022,697	359,478	79	1,382,254	4.37	234	235	55,095	25.09
Walker	2,799,561	625,249	373,341	3,798,151	6.81	923	210	193,904	19.59
Winston	W	W	W	W	W	W	W	W	W
Other counties	71,742	62,938	---	134,680	5.34	60	168	10,059	13.39
Total	11,526,799	2,318,299	373,624	14,218,722	7.04	5,131	211	1,084,546	13.11
				ALASKA					
Total	913,947	10,341	2,857	927,145	7.50	170	299	50,775	18.26
				ARKANSAS					
Franklin	113,357	---	---	113,357	6.27	21	229	4,832	23.46
Johnson	114,687	184	---	114,871	7.60	76	185	14,078	8.16
Sebastian	7,320	200	---	7,520	7.43	6	178	1,070	7.03
Total	235,364	384	---	235,748	6.96	103	194	19,980	11.80
				COLORADO					
Delta	W	W	W	W	W	W	W	W	W
Fremont	3,272	297,383	25	300,680	3.86	89	234	20,849	14.42
Garfield	---	6,029	---	6,029	9.00	9	208	1,811	3.33
Gunnison	314,500	47,785	2,044	364,329	5.69	123	204	25,092	14.52
Huerfano	580	36,097	---	36,677	5.26	41	169	6,920	5.30
LaPlata	52	21,629	---	21,681	5.37	22	192	4,319	5.02
Las Animas	W	W	W	W	W	W	W	W	W
Mesa	---	21,365	88,410	109,775	5.44	46	184	8,451	12.99
Moffat	W	W	W	W	W	W	W	W	W
Montrose	W	W	W	W	W	W	W	W	W

See footnotes at end of table.

Table 53.—Production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties—Continued

County	Production (short tons)				Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day [4]
	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
COLORADO—Continued									
Pitkin	W	W	W	W	W	W	W	W	W
Rio Blanca	---	5,309	---	5,309	5.97	4	231	933	5.69
Routt	1,041,791	515,369	576	1,557,736	3.37	118	248	29,244	53.27
Weld	468,869	210,303	6,227	685,399	4.20	209	208	43,407	15.79
Other counties	2,020,899	111,906	1,952	2,134,757	6.43	822	234	191,960	11.12
Total	3,849,963	1,273,175	99,234	5,222,372	4.99	1,483	225	332,986	15.68
ILLINOIS									
Adams	---	21,696	131	21,827	$7.04	15	150	2,183	10.00
Christian	W	W	W	W	W	W	W	W	W
Douglas	W	W	W	W	W	W	W	W	W
Franklin	W	W	W	W	W	W	W	W	W
Fulton	6,826,742	537,566	5,995	7,370,303	4.12	751	287	215,632	34.18
Gallatin	139,613	732	---	140,345	4.04	94	112	10,053	13.96
Greene	---	2,308	5	2,313	5.86	1	288	289	8.01
Grundy	W	W	W	W	W	W	W	W	W
Jackson	586,620	---	---	586,620	3.43	114	159	18,061	32.48
Jefferson	W	W	W	W	W	W	W	W	W
Knox	W	W	W	W	W	W	W	W	W
Logan	370	19,077	30	19,477	5.00	17	132	2,300	8.47
Macoupin	321,943	122,804	2,972	447,719	3.83	155	244	37,846	11.83
Mercer	---	12,694	---	12,694	5.70	9	140	1,261	10.07
Montgomery	W	W	W	W	W	W	W	W	W
Peoria	1,127,507	295,333	160	1,423,000	4.83	146	282	41,112	34.61
Perry	9,249,533	158,454	6,576	9,414,563	3.27	457	327	149,580	62.94
Randolph	3,063,529	139,495	1,763	3,204,787	3.59	354	286	101,174	31.68
St. Clair	W	W	W	W	W	W	W	W	W
Saline	3,822,175	12,615	6,775	3,841,565	4.14	726	245	177,791	21.61
Schuyler	W	W	W	W	W	W	W	W	W
Stark	W	W	W	W	W	W	W	W	W
Vermilion	630,881	194,369	3,108	828,358	4.75	136	251	34,139	24.26
Washington	W	W	W	W	W	W	W	W	W
Will	W	W	W	W	W	W	W	W	W
Williamson	5,509,406	500,270	11,712	6,021,388	3.88	1,257	242	304,743	19.76
Other counties	25,624,369	3,563,714	1,048,146	30,236,229	3.89	4,092	253	1,036,208	29.18
Total	56,902,688	5,581,127	1,087,373	63,571,188	3.85	8,324	256	2,132,372	29.81

INDIANA									
Clay	573,335	610,857	1,631	1,185,823	$4.05	166	296	49,082	24.16
Daviess	---	30,284	---	30,284	4.92	12	230	2,761	10.97
Fountain	W	W	W	W	W	W	W	W	W
Gibson	W	W	W	W	W	W	W	W	W
Greene	2,192,529	193,871	---	2,386,400	3.90	231	296	68,410	34.88
Knox	W	W	W	W	W	W	W	W	W
Owen	W	W	W	W	W	W	W	W	W
Parke	---	11,751	---	11,751	6.04	10	238	2,374	4.95
Perry	W	W	W	W	W	W	W	W	W
Pike	2,058,351	238,668	910	2,297,929	3.91	263	279	73,285	31.36
Spencer	27,837	65,657	---	93,494	4.53	39	157	6,095	15.34
Sullivan	1,476,009	202,383	1,257,766	2,936,158	4.03	426	271	115,338	25.46
Vermillion	---	6,516	---	6,516	4.30	16	87	1,383	4.71
Vigo	W	W	W	W	W	W	W	W	W
Warrick	5,481,628	462,714	1,529,311	7,473,653	3.77	546	285	155,840	47.96
Other counties	508,280	388,903	7,159	904,342	4.52	298	172	51,303	17.63
Total	12,317,969	2,211,604	2,796,777	17,326,350	3.92	2,007	262	525,871	32.95
IOWA									
Appanoose	563	14,012	206	14,781	6.85	65	104	6,749	2.19
Lucas	61,719	20,037	---	81,756	4.24	17	260	4,419	18.50
Mahaska	263,006	76,486	---	339,492	3.63	57	310	17,728	19.15
Marion	380,145	26,336	---	406,481	3.62	61	242	14,778	27.51
Monroe	4,125	160,566	---	164,691	3.35	19	310	5,890	27.96
Van Buren	---	16,106	15	16,121	4.51	8	190	1,521	10.60
Wapello	---	1,942	---	1,942	3.40	2	60	120	16.18
Total	709,558	315,485	221	1,025,264	3.69	229	224	51,205	20.02
KANSAS									
Cherokee	W	W	W	W	W	W	W	W	W
Crawford	W	W	W	W	W	W	W	W	W
Other counties	1,095,141	26,198	207	1,121,546	4.77	216	232	50,115	22.38
Total	1,095,141	26,198	207	1,121,546	4.74	216	232	50,115	22.38
KENTUCKY									
Eastern Kentucky:									
Bell	2,143,483	535,263	---	2,678,746	$3.17	577	208	119,812	22.36
Boyd	---	16,171	---	16,171	4.40	11	304	3,341	4.84
Breathitt	765,384	69,055	---	834,439	2.69	249	194	48,414	17.24
Carter	---	28,800	---	28,800	4.43	24	238	5,703	5.05
Clay	498,877	708,782	---	1,207,659	4.19	661	196	129,485	9.33
Clinton	---	12,200	---	12,200	4.00	19	120	2,251	5.42
Elliott	---	1,500	---	1,500	4.16	3	100	300	5.00
Floyd	4,822,411	524,617	1,428	5,348,456	5.52	1,832	223	409,127	13.07

See footnotes at end of table.

Table 53.—Production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties—Continued

County	Production (short tons)				Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day [4]
	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
				KENTUCKY—Continued					
Harlan	6,084,857	179,002	4,223	6,268,082	$5.14	2,296	224	514,450	12.18
Jackson	---	30,463	---	30,463	5.00	49	125	6,093	5.00
Johnson	641,858	33,945	---	675,803	2.54	259	166	42,888	15.76
Knott	2,826,183	116,599	---	2,942,782	3.03	1,220	167	204,137	14.42
Knox	98,579	78,542	---	177,121	3.44	152	175	26,639	6.65
Laurel	3,744	12,356	---	16,100	4.41	14	164	2,368	6.80
Lee	11,100	9,400	---	20,500	5.00	21	215	4,617	4.44
Leslie	1,268,944	213,991	179	1,483,114	3.88	761	207	157,885	9.42
Letcher	6,075,814	25,619	16,387	6,117,820	4.59	2,013	193	388,920	15.73
McCreary	525,419	61,235	---	586,654	3.62	199	234	46,486	12.62
Magoffin	135.673	54,722	---	190,395	2.82	127	66	8,345	22.82
Martin	483,580	36,254	---	519,834	3.59	159	230	36,563	14.22
Morgan	---	30,808	---	30,808	5.17	17	166	2,817	10.94
Perry	4,537,154	214,126	12,449	4,763,729	4.18	1,267	210	266,605	17.87
Pike	13,169,611	3,127,113	11,138	16,307,862	4.11	5,413	173	934,693	17.45
Pulaski	141,782	161,661	---	303,443	4.58	98	214	20,963	14.48
Rockcastle	---	1,000	---	1,000	4.16	2	100	200	5.00
Wayne	---	4,000	---	4,000	4.16	8	100	800	5.00
Whitley	201,359	196,727	---	398,086	4.23	217	155	33,651	11.83
Total	44,435,812	6,483,951	45,804	50,965,567	4.27	17,668	193	3,417,053	14.92
Western Kentucky:									
Butler	W	W	W	W	W	W	W	W	W
Caldwell	---	17,230	---	17,230	3.17	5	100	492	35.00
Christian	---	26,530	---	26,530	3.26	14	125	1,769	15.00
Daviss	W	W	W	W	W	W	W	W	W
Henderson	---	157,866	530	158,396	2.87	72	211	15,230	10.40
Hopkins	9,584,016	167,136	851	9,752,003	3.53	1,614	213	343,159	28.42
Muhlenberg	13,737,664	5,115,885	181	18,853,730	3.32	1,276	264	336,758	55.99
Ohio	5,828,170	169,484	---	5,997,654	3.30	446	262	116,726	51.38
Union	5,089,434	---	---	5,089,434	3.91	868	232	201,002	25.22
Webster	992,267	5,314	---	997,581	3.00	162	241	39,045	25.55
Other counties	591,574	706,178	---	1,297,752	4.28	166	246	40,814	31.80
Total	35,823,125	6,365,623	1,562	42,190,310	3.45	4,623	237	1,094,995	38.53
Grand total	80,258,937	12,849,574	47,366	93,155,877	3.90	22,291	202	4,512,048	20.65

MARYLAND									
Allegany	121,075	149,551	---	270,626	$4.03	109	211	22,968	11.78
Garrett	578,082	373,700	---	951,782	3.44	250	211	52,635	18.08
Total	699,157	523,251	---	1,222,408	3.57	359	211	75,603	16.17
MISSOURI									
Barton	9,023	247	---	9,270	3.89	6	100	618	15.00
Boone	W	W	W	W	W	W	W	W	W
Callaway	---	30,371	---	30,371	5.57	10	315	3,151	9.64
Clark	---	3,667	---	3,667	4.14	3	200	600	6.11
Dade	---	11,277	---	11,277	5.50	6	285	1,711	6.59
Henry	W	W	W	W	W	W	W	W	W
Macon	W	W	W	W	W	W	W	W	W
Putnam	W	W	W	W	W	W	W	W	W
Vernon	56,034	5,348	---	61,382	4.24	25	220	5,540	11.08
Other counties	1,642,730	394,355	1,429,152	3,466,237	4.12	306	287	87,732	39.51
Total	1,707,787	445,265	1,429,152	3,582,204	4.14	356	279	99,352	36.06
MONTANA									
Bituminous coal:									
Big Horn	---	1,215	---	1,215	$7.50	1	115	115	10.57
Blaine	W	W	W	W	W	W	W	W	W
Carbon	W	W	W	W	W	W	W	W	W
Musselshell	---	34,362	---	34,362	7.92	29	143	4,145	8.29
Rosebud	W	W	W	W	W	W	W	W	W
Other counties	45,285	8,816	1,232	55,333	6.57	48	196	9,410	5.88
Total	45,285	44,393	1,232	90,910	7.10	78	175	13,670	6.65
Lignite:									
Powder River	W	W	W	W	W	W	W	W	W
Richland	W	W	W	W	W	W	W	W	W
Sheridan	---	1,619	---	1,619	4.50	3	198	593	2.73
Other counties	323,745	2,901	5	326,651	1.95	15	245	3,671	88.98
Total	323,745	4,520	5	328,270	1.96	18	237	4,264	76.99
Grand total	369,030	48,913	1,237	419,180	3.08	96	187	17,934	23.37
NEW MEXICO									
Colfax	W	W	W	W	W	W	W	W	W
McKinley	W	W	W	W	W	W	W	W	W
San Juan	W	W	W	W	W	W	W	W	W
Other counties	713,552	2,025,688	16,056	2,755,296	3.31	388	163	63,397	43.46
Total	713,552	2,025,688	16,056	2,755,296	3.31	388	163	63,397	43.46

See footnotes at end of table.

Table 53.—Production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties—Continued

County	Production (short tons)				Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day [4]
	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
NORTH DAKOTA (LIGNITE)									
Adams	14,683	6,479	---	21,162	2.78	4	214	855	24.75
Bowman	W	W	W	W	W	W	W	W	W
Burke	W	W	W	W	W	W	W	W	W
Burleigh	---	5,808	---	5,808	3.42	2	144	288	20.17
Grant	---	17,924	---	17,924	3.10	5	159	793	22.60
Hettinger	W	W	W	W	W	W	W	W	W
McLean	W	W	W	W	W	W	W	W	W
Mercer	W	W	W	W	W	W	W	W	W
Morton	---	16,409	5	16,414	2.94	10	128	1,256	13.07
Oliver	W	W	W	W	W	W	W	W	W
Stark	W	W	W	W	W	W	W	W	W
Ward	W	W	W	W	W	W	W	W	W
Williams	---	8,000	---	8,000	4.00	2	120	288	27.73
Other counties	2,096,664	313,289	1,063,578	3,473,531	1.95	260	226	58,884	58.91
Total	2,111,347	367,909	1,063,583	3,542,839	1.97	283	220	62,364	56.81
OHIO									
Athens	41,883	145,030	10	186,923	$3.83	140	163	22,849	8.18
Belmont	8,067,239	218,002	988	8,286,229	4.06	1,741	229	398,620	20.79
Carroll	87,157	186,387	1,576	275,120	3.29	55	239	13,147	20.93
Columbiana	192,248	1,163,471	281	1,356,000	3.27	256	260	66,539	20.38
Coshocton	802,038	806,665	1,152,244	2,760,947	4.29	300	270	81,074	34.05
Gallia	272,364	15,880	11	288,255	3.33	117	132	15,420	18.69
Guernsey	1,093,364	24,717	726,490	1,844,571	2.55	166	236	39,249	47.00
Harrison	9,917,646	705,132	27,519	10,650,297	4.08	1,895	247	468,381	22.74
Hocking	---	87,029	---	87,029	3.93	35	215	7,514	11.58
Holmes	184,281	59,961	---	244,242	3.34	39	246	9,994	25.46
Jackson	140,113	715,359	23	855,495	3.59	145	227	32,950	25.96
Jefferson	2,458,439	2,323,818	4,568	4,786,825	3.77	767	249	190,758	25.09
Lawrence	W	W	W	W	W	W	W	W	W
Mahoning	--	485,128	15,974	501,102	3.80	92	251	23,146	21.65
Meigs	23,349	6,657	---	30,006	3.13	17	149	2,535	11.84
Morgan	W	W	W	W	W	W	W	W	W
Monroe	W	W	W	W	W	W	W	W	
Muskingum	111,197	172,081	---	283,278	3.26	121	121	14,613	19.39
Noble	537,560	1,183,109	501,005	2,221,674	3.09	203	187	37,937	58.56
Perry	1,538,308	594,495	---	2,132,803	3.90	277	224	62,092	34.35
Stark	---	521,192	4,194	525,386	3.11	94	254	23,834	22.04
Tuscarawas	469,500	2,517,302	8,027	2,994,829	3.48	544	274	148,943	20.11

Vinton	19,766	133,956	---	153,722	3.93	55	224	12,335	12.46
Washington	W	W	W	W	W	W	W	W	W
Wayne	---	24,484	---	24,484	2.34	3	142	487	50.29
Other counties	963,084	538,213	1,350,917	2,852,214	3.73	465	235	109,408	26.07
Total	26,919,536	12,628,068	3,793,827	43,341,431	3.79	7,527	237	1,781,425	24.33
				OKLAHOMA					
Craig	191,797	12,988	---	204,785	$3.38	52	253	13,272	15.43
Haskell	W	W	W	W	W	W	W	W	W
Le Flore	4,803	1,488	---	6,291	7.50	14	100	1,398	4.50
Muskogee	---	1,787	---	1,787	7.75	1	150	150	11.91
Okulgee	---	2,494	---	2,494	5.83	2	100	166	15.00
Rogers	W	W	W	W	W	W	W	W	W
Other counties	627,016	1,126	---	628,142	6.64	136	200	27,195	23.10
Total	823,616	19,883	---	843,499	5.85	205	206	42,181	20.00
				PENNSYLVANIA					
Allegheny	3,478,364	1,478,054	345,158	5,301,576	$6.01	1,296	228	296,067	17.91
Armstrong	2,785,288	2,150,083	447,889	5,383,260	4.08	1,230	215	264,506	20.35
Beaver	---	299,094	---	299,094	4.11	74	194	14,353	20.84
Bedford	W	W	W	W	W	W	W	W	W
Blair	---	76,541	---	76,541	3.82	22	237	5,209	14.69
Bradford	W	W	W	W	W	W	W	W	W
Butler	1,270,244	892,401	32	2,162,677	4.39	476	240	114,136	18.95
Cambria	7,260,174	838,890	10,628	8,109,692	5.80	3,223	237	762,297	10.64
Centre	460,653	248,802	---	709,455	3.68	195	252	49,135	14.44
Clarion	2,204,427	1,128,920	310	3,333,657	3.73	491	227	111,257	29.96
Clearfield	5,635,375	1,634,984	3,094	7,273,453	3.64	1,738	250	433,846	16.77
Clinton	499,364	184,674	---	684,038	3.78	93	249	23,156	29.54
Elk	246,389	224,832	---	471,221	3.73	141	225	31,776	14.83
Fayette	617,288	209,896	31,573	858,757	5.36	304	204	62,126	13.82
Greene	12,013,340	99,762	10,183	12,123,285	6.67	4,152	233	965,436	12.56
Huntingdon	---	51,937	---	51,937	3.31	28	144	4,045	12.84
Indiana	6,479,977	604,662	575,751	7,660,390	4.39	2,133	220	468,665	16.35
Jefferson	1,406,487	252,492	5,115	1,664,094	3.89	565	198	111,614	14.91
Lawrence	24,102	1,124,685	647	1,149,434	2.60	186	278	51,740	22.22
Lycoming	---	102,540	---	102,540	3.67	28	183	5,119	20.03
McKean	---	24,662	---	24,662	3.69	20	66	1,320	18.68
Mercer	212,533	211,117	315	423,965	4.19	102	295	30,138	14.07
Somerset	3,332,088	792,176	4,441	4,128,705	4.33	1,164	210	244,374	16.90
Tioga	4,984	604,603	---	609,587	4.00	93	286	26,527	22.98
Venango	157,156	336,641	---	493,797	3.26	113	293	33,163	14.89
Washington	12,083,081	2,047,043	9,428	14,139,552	6.49	4,119	238	980,892	14.41
Westmoreland	3,008,268	548,492	352,030	3,908,790	5.47	1,128	219	246,664	15.85
Other counties	---	298,642	---	298,642	4.76	103	252	25,998	11.49
Total	63,179,582	16,466,625	1,796,594	81,442,801	5.22	23,217	231	5,363,559	15.18

See footnotes at end of table.

Table 53.—Production, value, men working daily, days active, man–days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties—Continued

County	Production (short tons)				Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man–days worked	Average tons per man per day [4]
	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
SOUTH DAKOTA (LIGNITE)									
Dewey	---	9,500	---	9,500	4.75	4	125	475	20.00
TENNESSEE									
Anderson	1,308,987	1,055,372	---	2,364,359	3.81	476	231	110,053	21.48
Bledsoe	---	2,500	---	2,500	4.00	3	125	375	6.67
Campbell	596,637	174,766	---	771,403	3.43	282	199	56,202	13.73
Claiborne	611,512	2,484	---	613,996	3.57	205	216	44,326	13.85
Cumberland	---	12,158	---	12,158	2.97	24	100	2,432	5.00
Fentress	32,839	16,480	---	49,319	3.86	47	190	8,931	5.52
Grundy	155,438	65,223	---	220,661	4.13	49	207	10,131	21.78
Hamilton	4,400	37,976	---	42,376	3.34	42	110	4,600	9.21
Marion	646,134	46,079	---	692,213	4.63	324	160	51,699	13.39
Morgan	69,884	365,098	---	434,982	3.33	375	104	39,128	11.12
Overton	5.500	15,923	---	21,423	3.60	47	91	4,319	4.96
Putnam	30,000	15,000	---	45,000	3.60	18	195	3,510	12.82
Rhea	---	12,200	---	12,200	4.60	24	100	2,440	5.00
Scott	293,738	137,604	---	431,342	3.23	140	193	27,078	15.93
Sequatchie	302,477	102,973	---	405,450	3.72	207	169	34,905	11.62
Van Buren	161,142	28,000	---	189,142	4.05	38	186	7,054	26.81
Total	4,218,688	2,089,836	---	6,308,524	3.77	2,301	177	407,183	15.49
UTAH									
Carbon	3,237,721	133,176	9,010	3,379,907	$6.18	988	208	205,590	16.44
Emery	972,304	192,855	5,243	1,170,402	4.64	363	223	80,997	14.45
Iron	W	W	W	W	W	W	W	W	W
Kane	---	1,709	10	1,719	5.68	2	163	328	5.24
Sevier	W	W	W	W	W	W	W	W	W
Summit	---	15,023	40	15,063	4.71	7	243	1,698	8.87
Other counties	---	68,239	---	68,239	5.52	14	166	2,318	29.44
Total	4,210,025	411,002	14,303	4,635,330	5.77	1,374	212	290,931	15.93

				VIRGINIA					
Buchanan	13,352,400	2,934,639	457	16,287,496	4.13	6,391	202	1,290,394	12.62
Dickenson	8,448,799	890,661	12	9,339,472	4.28	2,167	227	491,825	18.99
Lee	353,151	80,191	---	433,342	4.65	337	168	56,457	7.68
Montgomery	---	2,055	---	2,055	5.04	3	105	325	6.32
Russell	1,651,320	265,521	---	1,916,841	5.41	648	202	131,211	14.61
Scott	2,544	7,973	---	10,517	4.51	10	239	2,390	4.40
Tazewell	198,043	46,078	---	244,121	3.58	168	179	30,078	8.12
Wise	6,531,233	596,087	203,347	7,330,667	4.46	1,794	216	387,020	18.94
Total	30,537,490	4,823,205	203,816	35,564,511	4.31	11,518	207	2,389,700	14.88
				WASHINGTON					
King	W	W	W	W	W	W	W	W	W
Lewis	W	W	W	W	W	W	W	W	W
Thurston	---	7,704	---	7,704	7.79	4	236	942	8.18
Other counties	18,854	32,079	---	50,933	8.91	73	237	17,268	2.95
Total	18,854	39,783	---	58,637	8.77	77	236	18,210	3.22
				WEST VIRGINIA					
Barbour	3,327,507	22,551	---	3,350,058	$4.24	826	219	181,073	18.50
Boone	8,953,212	105,910	8,621	9,067,743	4.74	2,168	207	447,703	20.25
Brooke	110,361	162,779	598,191	871,331	3.55	241	220	53,029	16.43
Clay	W	W	W	W	W	W	W	W	W
Fayette	5,413,089	161,986	10,806	5,585,881	4.55	2,458	183	449,662	12.42
Gilmer	W	W	W	W	W	W	W	W	W
Grant	W	W	W	W	W	W	W	W	W
Greenbrier	730,585	107,866	220	838,671	4.36	427	154	65,908	12.72
Hancock	---	4,764	---	4,764	2.83	6	36	218	21.85
Harrison	6,907,768	31,556	496	6,939,820	4.34	1,529	206	315,314	22.01
Kanawha	11,420,041	154,424	2,633	11,577,098	4.34	2,767	211	582,935	19.86
Lewis	W	W	W	W	W	W	W	W	W
Lincoln	9,854	---	---	9,854	2.40	16	86	1,369	7.19
Logan	17,276,713	6,138	9,880	17,292,731	4.84	4,582	228	1,044,181	16.56
Marion	W	W	W	W	W	W	W	W	W
Marshall	W	W	W	W	W	W	W	W	W
Mason	W	W	W	W	W	W	W	W	W
McDowell	16,853,752	97,764	105,546	17,057,062	6.51	5,962	206	1,225,319	13.92
Mercer	1,323,355	17,660	2,692	1,343,707	6.49	543	188	102,052	13.17
Mineral	W	W	W	W	W	W	W	W	W
Mingo	5,339,998	70,390	343	5,410,731	5.51	1,853	198	366,518	14.76
Monongalia	8,249,809	187,657	---	8,437,466	4.56	1.843	232	427,377	19.74
Nicholas	8,413,591	47,428	3,990	8,465,009	5.08	2,604	231	600,818	14.09
Ohio	W	W	W	W	W	W	W	W	W
Pocahontas	W	W	W	W	W	W	W	W	W
Preston	3,316,156	374,465	1,160	3,691,781	3.51	1,231	208	256,098	14.42
Raleigh	9,059,055	31,407	21,184	9,111,646	5.74	3,215	220	706,398	12.90
Randolph	823,899	26,389	6,137	856,425	3.95	591	134	79,461	10.78
Taylor	234,421	6,894	---	241,315	3.63	125	134	16,769	14.39
Tucker	598,590	---	---	598,590	2.96	62	188	11,631	51.47

See footnotes at end of table.

Table 53.—Production, value, men working daily, days active, man-days, and output per man per day at bituminous coal and lignite mines in the United States, in 1966, by States and counties—Continued

County	Production (short tons)				Average value per ton [3]	Average number of men working daily	Average number of days worked	Number of man-days worked	Average tons per man per day [4]
	Shipped by rail or water [1]	Shipped by truck	Used at mine [2]	Total					
WEST VIRGINIA—Continued									
Upshur	610,020	4,172	---	614,192	3.72	180	179	32,133	19.11
Wayne	W	W	W	W	W	W	W	W	W
Webster	665,047	4,099	643	669,789	5.05	281	187	52,495	12.76
Wyoming	15,111,674	135,541	27,203	15,274,418	5.64	5,019	224	1,123,411	13.60
Other counties	19,577,941	730,406	2,062,272	22,370,619	4.76	5,240	236	1,235,384	18.11
Total	144,326,438	2,492,246	2,862,017	149,680,701	5.04	43,769	214	9,377,256	15.96
WYOMING									
Campbell	377,635	16,449	81,086	475,170	$1.38	30	253	7,595	62.56
Carbon	W	W	W	W	W	W	W	W	W
Converse	W	W	W	W	W	W	W	W	W
Hot Springs	3,220	5,877	4	9,101	7.93	19	96	1,831	4.97
Lincoln	W	W	W	W	W	W	W	W	W
Sheridan	306,507	19,530	---	326,037	3.35	43	252	10,821	30.13
Sweetwater	W	W	W	W	W	W	W	W	W
Other counties	716,604	7,005	2,136,220	2,859,829	3.50	232	235	54,545	52.43
Total	1,403,966	48,861	2,217,310	3,670,137	3.23	324	231	74,792	49.07
UNITED STATES									
Total United States	449,049,434	67,026,222	17,805,554	533,881,210	4.54	131,752	219	28,824,260	18.52

W Withheld to avoid disclosing individual company data; included with "other counties."

[1] Includes coal loaded at mine directly into railroad cars or river barges, hauled by trucks to railroad sidings, and hauled by trucks to waterways.

[2] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor, tram, or pipeline.

[3] Value received or charged for coal f.o.b. mine. Includes a value for coal not sold but used by producers, such as mine fuel and coal coked, as estimated by producers at average prices that might have been received if such coal had been sold commercially.

[4] In certain counties the average tons per man per day is large because of auger mining, strip mining, or mechanical loading underground.

Table 54.—Bituminous coal and lignite shipped from mines, by method of shipment, and that used at mines in the United States

Year	Method of shipment from mines			Used at mine[1]	Total production
	Shipped by rail and trucked to rail	Shipped by water and trucked to water	Trucked to final destination		
THOUSAND SHORT TONS					
1960	303,865	46,784	52,699	12,164	415,512
1961	293,546	46,348	51,044	12,039	402,977
1962	307,328	48,106	54,853	11,862	422,149
1963	333,989	50,664	60,901	13,374	458,928
1964	349,377	59,349	65,532	12,740	486,998
1965	371,544	60,289	68,302	11,953	512,088
1966	386,958	62,092	67,026	17,805	533,881
PERCENTAGE OF TOTAL					
1960	73.1	11.3	12.7	2.9	100.0
1961	72.9	11.5	12.6	3.0	100.0
1962	72.8	11.4	13.0	2.8	100.0
1963	72.8	11.0	13.3	2.9	100.0
1964	71.7	12.2	13.5	2.6	100.0
1965	72.6	11.8	13.3	2.3	100.0
1966	72.5	11.6	12.6	3.3	100.0

[1] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor, tram, or pipeline.

Table 55.—Bituminous coal and lignite loaded for shipment by railroads and waterways in the United States, 1966, as reported by mine operators

Route	State	By State (short tons)	Total for route (short tons)
RAILROAD			
Alaska	Alaska	913,947	918,947
Atchison, Topeka & Santa Fe	Colorado	455	900,578
	Illinois	186,571	
	New Mexico	713,552	
Baltimore & Ohio	Illinois	456,065	39,077,038
	Maryland	1,500	
	Ohio	6,526,008	
	Pennsylvania	3,596,036	
	West Virginia	28,497,429	
Bessemer & Lake Erie	Pennsylvania	2,122,993	2,122,993
Cambria & Indiana	do	4,054,970	4,054,970
Carbon County	Utah	1,087,646	1,087,646
Chesapeake & Ohio	Kentucky	13,248,686	53,392,971
	Ohio	19,766	
	Virginia	41,719	
	West Virginia	40,082,800	
Cheswick & Harmar	Pennsylvania	333,918	333,918
Chicago, Burlington & Quincy	Illinois	9,804,177	11,479,890
	Iowa	351,655	
	Missouri	636,696	
	Wyoming	687,362	
Chicago & Eastern Illinois	Illinois	2,223,642	2,482,237
	Indiana	258,595	
Chicago & Illinois Midland	Illinois	5,379,356	5,379,356
Chicago, Milwaukee, St. Paul & Pacific	Indiana	1,722,294	1,809,736
	North Dakota (lignite)	87,442	
Chicago & North Western	Illinois	2,490,202	2,490,202
Chicago, Rock Island & Pacific	do	1,179,411	1,432,121
	Iowa	246,710	
	Missouri	6,000	
Clinchfield	Kentucky	615,596	5,424,911
	Virginia	4,809,315	
Colorado & Wyoming	Colorado	832,493	832,493
Denver & Rio Grande Western	do	2,548,146	4,869,541
	Utah	2,321,395	
Erie-Lackawanna	Ohio	192,248	197,232
	Pennsylvania	4,984	
Great Northern	North Dakota (lignite)	281,757	281,757
Gulf, Mobile & Ohio	Illinois	6,794,651	6,794,651
Illinois Central	do	13,501,751	24,636,474
	Kentucky	11,134,723	
Illinois Terminal	Illinois	321,943	321,943
Interstate	Virginia	4,731,065	4,731,065
Kansas City Southern	Oklahoma	142,055	142,055
Kentucky & Tennessee	Kentucky	525,419	525,419
Lake Erie, Franklin & Clarion	Pennsylvania	293,457	293,457
Louisville & Nashville	Alabama	1,609,360	33,714,851
	Kentucky	30,775,814	
	Tennessee	1,300,325	
	Virginia	29,852	
Mary Lee	Alabama	825,547	825,547
Midland Valley	Oklahoma	260,814	260,814
Missouri-Kansas-Texas	Kansas	840,562	1,273,834
	Missouri	400,545	
	Oklahoma	32,727	
Missouri Pacific	Arkansas	228,044	6,376,356
	Illinois	6,001,165	
	Missouri	56,034	
	Oklahoma	91,113	
Monongahela	Pennsylvania	426,703	9,276,459
	West Virginia	8,849,756	
Montour	Pennsylvania	1,941,042	1,941,042
New York Central (includes coal shipped over Kanawha & Michigan, Kelley's Creek, Toledo & Ohio Central, and Zanesville & Western	Illinois	4,678,481	24,563,720
	Indiana	6,387,590	
	Ohio	3,065,662	
	Pennsylvania	5,718,330	
	West Virginia	4,713,657	
Norfolk & Western	Iowa	111,086	77,682,145
	Kentucky	6,961,732	
	Missouri	599,489	
	Ohio	7,011,622	
	Virginia	20,441,843	
	West Virginia	42,556,373	

Table 55.—Bituminous coal and lignite loaded for shipment by railroads and waterways in the United States, in 1966, as reported by mine operators—Continued

Route	State	By State (short tons)	Total for route (short tons)
RAILROAD—Continued			
Northern Pacific	Montana (bituminous and lignite)	369,030	1,756,342
	North Dakota (lignite)	1,387,312	
Pacific Coast	Washington	18,854	18,854
Pennsylvania	Indiana	2,223,654	29,346,278
	Ohio	6,758,551	
	Pennsylvania	20,364,073	
Pittsburgh & Shawmut	do	2,148,770	2,148,770
Pittsburgh & Lake Erie	do	1,190,104	1,190,104
St. Louis-San Francisco	Alabama	307,206	875,035
	Arkansas	7,320	
	Kansas	254,579	
	Missouri	9,023	
	Oklahoma	296,907	
Soo Line	North Dakota (lignite)	354,836	354,836
Southern	Alabama	2,836,370	5,230,364
	Indiana	27,837	
	Kentucky	290,639	
	Tennessee	1,591,822	
	Virginia	483,696	
Southern Iowa	Iowa	107	107
Tennessee	Tennessee	812,663	812,663
Tennessee Central	do	69,578	69,578
Tennessee Coal, Iron & Railroad Co.	Alabama	2,064,267	2,064,267
Toledo, Peoria & Western	Illinois	702,229	702,229
Union Pacific	Colorado	468,869	1,185,473
	Wyoming	716,604	
Utah	Utah	800,984	800,984
Western Allegheny	Pennsylvania	22,483	22,483
Western Maryland	Maryland	697,657	7,594,507
	Pennsylvania	530,423	
	West Virginia	6,366,427	
Woodward Iron Company	Alabama	861,392	861,392
Total		386,957,635	386,957,635
WATERWAY			
Allegheny River	Pennsylvania	1,581,344	1,581,344
Black Warrior River	Alabama	2,488,194	2,488,194
Cumberland River	Kentucky	112,618	112,618
Green River	do	11,356,189	11,356,189
Guyandot River	West Virginia	5,760	5,760
Illinois River	Illinois	3,011,123	3,011,123
Kanawha River	West Virginia	6,251,383	6,251,383
Monongahela River	Pennsylvania	18,849,952	24,458,309
	West Virginia	5,608,357	
Ohio River	Illinois	171,921	11,848,116
	Indiana	1,697,999	
	Kentucky	5,238,021	
	Ohio	3,345,679	
	West Virginia	1,394,496	
Tennessee River	Alabama	534,463	978,763
	Tennessee	444,300	
Total		62,091,799	62,091,799
Total loaded at mines for shipment by railroads and waterways		449,049,434	449,049,434
Shipped by truck from mine to final destination		67,026,222	67,026,222
Used at mine [1]		17,805,554	17,805,554
Total production, 1966		533,881,210	533,881,210

[1] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor, tram or pipeline.

Table 56.—Consumption of bituminous coal and lignite, by consumer class, with retail deliveries in the United States

(Thousand short tons)

Year and month	Electric power utilities [1]	Bunker, lake vessel and foreign [2]	Railroads (class I) [3]	Manufacturing and mining industries					Retail deliveries to other consumers [6]	Total of classes shown [7]
				Beehive coke plants	Oven coke plants	Steel and rolling mills [4]	Cement mills	Other manufacturing and mining industries [5]		
1960	173,882	945	2,101	1,640	79,375	7,378	8,216	76,487	30,405	380,429
1961	179,629	770	(8)	1,496	72,385	7,495	7,615	77,280	27,735	374,405
1962	190,833	687	(8)	1,339	72,923	7,319	7,719	78,766	28,188	387,774
1963	209,038	670	(8)	1,613	76,020	7,401	8,138	82,797	23,548	409,225
1964	223,032	711	(8)	2,025	86,732	7,394	8,679	82,928	19,615	431,116
1965:										
January	21,471	1	(8)	285	7,962	794	661	8,045	2,825	42,044
February	19,608	---	(8)	261	7,306	759	627	7,442	2,743	38,746
March	21,134	3	(8)	312	8,148	786	738	7,918	2,370	41,409
April	18,323	45	(8)	263	7,894	628	715	6,992	1,019	35,879
May	18,632	82	(8)	238	8,206	534	700	6,510	528	35,430
June	19,292	88	(8)	283	7,853	493	725	6,425	442	35,601
July	20,018	72	(8)	255	7,913	508	730	6,078	564	36,138
August	21,051	92	(8)	266	7,868	518	723	6,200	840	37,558
September	19,936	85	(8)	150	7,363	536	766	6,113	1,266	36,215
October	20,066	85	(8)	128	7,337	585	873	7,323	1,748	38,145
November	20,552	78	(8)	117	6,966	604	814	7,931	2,078	39,140
December	22,646	24	(8)	135	7,270	721	801	8,637	2,625	42,859
Total	242,729	655	(8)	2,693	92,086	7,466	8,878	85,614	19,048	459,164
1966:										
January	24,063	1	(8)	161	7,377	764	924	8,663	3,189	45,142
February	21,263	---	(8)	160	7,041	724	649	7,771	2,947	40,555
March	21,631	4	(8)	188	7,988	696	663	7,981	1,865	41,016
April	20,324	54	(8)	175	7,645	599	731	7,398	1,102	38,028
May	19,972	82	(8)	185	8,080	556	740	7,080	706	37,401
June	21,269	78	(8)	200	7,951	504	789	6,684	498	37,973
July	22,962	68	(8)	169	8,048	420	763	6,316	474	39,220
August	22,684	77	(8)	237	8,084	433	745	6,600	938	39,798
September	20,990	72	(8)	233	7,833	478	788	6,640	1,432	38,466
October	22,009	76	(8)	231	7,975	584	778	7,583	2,023	41,259
November	22,433	77	(8)	222	7,718	607	789	8,023	2,163	42,032
December	24,602	20	(8)	208	7,783	752	790	8,593	2,628	45,376
Total	264,202	609	(8)	2,369	93,523	7,117	9,149	89,332	19,965	486,266

[1] Federal Power Commission.

[2] Bureau of the Census, U.S. Department of Commerce, Ore and Coal Exchange.

[3] Association of American Railroads. Represents consumption of bituminous coal and lignite for all uses, including locomotive, powerhouse, shop, and station fuel.

[4] Estimates based upon reports collected from a selected list of representative steel and rolling mills.

[5] Estimates based upon reports collected from a selected list of representative manufacturing plants.

[6] Estimates based upon reports collected from a selected list of representative retailers. Includes some coal shipped by truck from mine to final destination.

[7] The total of classes shown approximates total consumption. The calculation of consumption from production, imports, exports, and changes in stocks is not as accurate as the "Total of classes shown" because certain significant items of stocks are not included in year-end stocks. These items are: Stocks on Lake and Tidewater docks, stocks at other intermediate storage piles between mine and consumer, and coal in transit.

[8] Census discontinued

Table 57.—Fuel economy in consumption of coal at electric-utility powerplants in the United States

Year	Coal consumed per kilowatt-hour (pounds)	Index numbers based on 1919 as 100	Year	Coal consumed per kilowatt-hour (pounds)	Index numbers based on 1919 as 100	Year	Coal consumed per kilowatt-hour (pounds)	Index numbers based on 1919 as 100
1919	3.20	100.0	1935	1.44	45.0	1951	1.14	35.6
1920	3.00	93.8	1936	1.44	45.0	1952	1.10	34.4
1921	2.70	84.4	1937	1.44	45.0	1953	1.06	33.1
1922	2.50	78.1	1938	1.40	43.8	1954	.99	30.9
1923	2.40	75.0	1939	1.38	43.1	1955	.95	29.7
1924	2.20	68.8	1940	1.34	41.9	1956	.94	29.4
1925	2.00	62.5	1941	1.34	41.9	1957	.93	29.1
1926	1.90	59.4	1942	1.30	40.6	1958	.90	28.1
1927	1.82	56.9	1943	1.30	40.6	1959	.89	27.8
1928	1.73	54.1	1944	1.29	40.3	1960	.88	27.5
1929	1.66	51.9	1945	1.30	40.6	1961	.86	26.9
1930	1.60	50.0	1946	1.29	40.3	1962	.86	26.9
1931	1.52	47.5	1947	1.31	40.9	1963	.86	26.9
1932	1.49	45.6	1948	1.30	40.6	1964	.86	26.9
1933	1.46	45.6	1949	1.24	38.8	1965	.86	26.9
1934	1.45	45.3	1950	1.19	37.2	1966	.87	27.2

Table 58.—Distribution of bituminous coal and lignite, in 1966, by method of movement and Consumer use

(Thousand short tons)

Shipments	Electric utilities	Coke and gas plants	Retail dealers	All others	Railroad fuel	Used at mines and sales to employees
Total shipments to all destinations in the United States, Canada, and Mexico, by all methods of movements and consumer use, and overseas exports	271,616	100,570	20,664	101,866	1,308	2,098
Shipments to all destinations in the United States, Canada, and Mexico by specific method of movement and consumer use:						
Method of movement:						
All-rail	136,466	49,685	12,637	63,890	---	---
River and ex-river	56,785	28,077	851	7,078	---	---
Great Lakes [1]	23,384	15,274	3,520	13,127	---	---
Tidewater [2]	16,243	6,122	21	694	---	---
Truck	23,553	1,412	3,635	17,001	---	---
Tramway, conveyor, and private railroad	15,185	---	---	76	---	---
Method of movement and/or consumer uses unknown	---	---	---	---	1,308	2,098
Total	271,616	100,570	20,664	101,866	1,308	2,098

Shipments	Canadian Great Lakes commercial docks [3]	U.S. Great Lakes dock storage [3]	U.S. tidewater dock storage [3]	Overseas exports [4]	Net change in mine inventory	Total
Total shipments to all destinations in the United States, Canada, and Mexico, by all methods of movements and consumer use, and overseas exports	428	−6	4	33,527	291	532,366
Shipments to all destinations in the United States, Canada, and Mexico by specific method of movement and consumer use:						
Method of movement:						
All-rail	---	---	---	---	---	262,678
River and ex-river	---	---	---	---	---	92,791
Great Lakes [1]	---	---	---	---	---	55,305
Tidewater [2]	---	---	---	---	---	23,080
Truck	---	---	---	---	---	45,601
Tramway, conveyor, and private railroad	---	---	---	---	---	15,261
Method of movement and/or consumer uses unknown	428	−6	4	33,527	291	37,650
Total	428	−6	4	33,527	291	532,366

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[1] Excludes shipments to Canadian Great Lakes commercial docks and U.S. dock storage for which consumer uses are not available; however, includes vessel fuel, the destinations of which are not available.

[2] Excludes overseas exports and U.S. tidewater dock storage for which consumer uses are not available; however, includes bunker fuel, the destinations of which are not available.

[3] Consumer use unknown.

[4] Excludes Canada; consumer use unknown.

Table 59.—Distribution of bituminous coal and lignite, in 1966, by district of origin and consumer use

(Thousand short tons)

District of origin [1]	Electric utilities	Coke and gas plants	Retail dealers	All others	Rail-road fuel	Used at mines and sales to employees
1	28,311	3,678	442	8,064	220	591
2	9,045	24,753	643	7,494	10	33
3 and 6	32,371	7,834	707	8,514	46	16
4	29,894	---	1,694	12,056	197	51
7	1,178	17,323	1,658	3,065	130	767
8	54,311	33,224	8,842	30,691	245	502
9	37,802	127	1,735	4,747	57	3
10	43,109	2,089	2,430	16,418	195	51
11	11,071	---	508	5,877	122	7
12	731	---	1	260	---	---
13	7,858	5,931	108	897	1	2
14	---	559	---	54	---	---
15 [2]	4,184	140	127	698	3	---
16	539	---	52	103	---	6
17	1,853	2,673	349	216	---	2
18	2,393	---	5	39	---	5
19	2,983	21	131	565	38	1
20	786	2,218	814	790	2	30
21	2,668	---	318	624	37	27
22 and 23	529	---	100	694	5	4
Total	271,616	100,570	20,664	101,866	1,308	2,098

District of origin [1]	Canadian Great Lakes commercial docks [3]	U.S. Great Lakes dock storage [3]	U.S. tidewater dock storage [3]	Overseas exports [4]	Net change in mine inventory	Total
1	29	−1	3	1,280	−18	42,599
2	6	38	---	---	151	42,173
3 and 6	71	35	5	1,238	38	50,875
4	97	−104	---	---	42	43,927
7	13	46	18	14,577	−11	38,764
8	212	76	−22	16,432	36	144,549
9	---	−22	---	---	185	44,634
10	---	−74	---	---	−68	64,150
11	---	---	---	---	−9	17,576
12	---	---	---	---	---	992
13	---	---	---	---	−97	14,700
14	---	---	---	---	---	613
15 [2]	---	---	---	---	46	5,198
16	---	---	---	---	−1	699
17	---	---	---	---	14	5,107
18	---	---	---	---	−27	2,415
19	---	---	---	---	---	3,739
20	---	---	---	---	1	4,641
21	---	---	---	---	9	3,683
22 and 23	---	---	---	---	---	1,332
Total	428	−6	4	33,527	291	532,366

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[1] Producing districts are defined in: Bureau of Mines. Bituminous Coal and Lignite Distribution Calendar Year 1966. Mineral Industry Survey, March, 1967, 21 pp.

[2] Excludes Texas.

[3] Consumer use unknown.

[4] Excludes Canada; consumer use unknown.

Table 60.—Distribution of bituminous coal and lignite, in 1966, by destination and consumer use

(Thousand short tons)

Destination	Total	Electric utilities	Coke and gas plants	Retail dealers	All others [1]
New England:					
Massachusetts	4,415	4,019	---	109	287
Connecticut	5,434	4,675	454	12	293
Maine, New Hampshire, Vermont, and Rhode Island	1,028	764	---	65	199
Middle Atlantic:					
New York	25,314	12,487	5,882	260	6,685
New Jersey	8,692	7,151	511	16	1,014
Pennsylvania	59,907	22,399	27,107	817	9,584
East North Central:					
Ohio	57,622	28,321	12,230	2,330	14,741
Indiana	38,424	18,600	12,246	1,163	6,415
Illinois	46,382	27,808	3,626	4,263	10,685
Michigan	34,770	18,464	5,012	1,831	9,463
Wisconsin	15,053	7,587	463	2,115	4,888
West North Central:					
Minnesota	7,680	4,624	952	712	1,392
Iowa	5,440	2,915	---	442	2,083
Missouri	8,494	5,946	209	277	2,062
North Dakota and South Dakota	2,996	2,173	---	398	425
Nebraska and Kansas	1,367	796	---	60	511
South Atlantic:					
Delaware and Maryland	14,082	8,108	4,967	111	896
District of Columbia	[2] 897	497	---	101	[2] 299
Virginia	14,279	8,245	260	831	4,943
West Virginia	20,159	9,594	5,193	307	5,065
North Carolina	15,352	12,226	---	639	2,487
South Carolina	5,118	3,240	---	296	1,582
Georgia and Florida	10,604	9,597	---	223	784
East South Central:					
Kentucky	17,644	12,693	1,751	552	2,648
Tennessee	14,811	11,427	180	608	2,596
Alabama and Mississippi	22,474	13,548	7,411	104	1,411
West South Central:					
Arkansas, Louisiana, Oklahoma, and Texas	1,084	---	948	28	108
Mountain:					
Colorado	4,705	2,758	1,232	343	372
Utah	2,974	486	1,931	186	371
Montana and Idaho	995	325	---	377	293
Wyoming	2,601	2,437	---	39	125
New Mexico	2,084	2,064	---	7	13
Arizona and Nevada	739	624	---	92	23
Pacific:					
Washington and Oregon	687	---	---	254	433
California	1,888	---	1,839	14	35
Alaska	858	204	---	44	610
Canada [3]	15,331	4,506	5,854	558	4,413
Mexico	54	---	---	---	54
Destinations not revealable	1,211	308	312	80	511
Destinations and/or consumer uses not available:					
Great Lakes movement:					
Canadian commercial docks	428	---	---	---	---
Vessel fuel	1,054	---	---	---	---
U.S. dock storage	−6	---	---	---	---
Tidewater movement:					
Overseas exports (except Canada)	33,527	---	---	---	---
Bunker fuel	13	---	---	---	---
U.S. dock storage	4	---	---	---	---
Railroad fuel:					
U.S. companies	1,260	---	---	---	---
Canadian companies	48	---	---	---	---
Coal used at mines and sales to employees	2,098	---	---	---	---
Net change in mine inventory	291	---	---	---	---
Total	532,366	---	---	---	---

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[1] Excludes vessel fuel and bunker fuel, the destinations of which are not available.
[2] A considerable block of tonnage is included under "Destinations not revealable."
[3] Excludes shipments to Canadian Great Lakes commercial docks and Canadian railroad companies.

Table 61.—Total bituminous coal and lignite shipments and percent of grand total shipments, by geographic division and State of destination

Geographic division and State of destination	Thousand short tons						Percent of total					
	1961	1962	1963	1964	1965	1966	1961	1962	1963	1964	1965	1966
Total	403,262	424,627	456,137	485,465	512,525	532,366	100.0	100.0	100.0	100.0	100.0	100.0
New England	9,674	9,997	10,017	10,007	10,640	10,877	2.4	2.4	2.2	2.0	2.1	2.0
Massachusetts	4,014	4,342	4,346	4,160	4,681	4,415	1.0	1.0	1.0	.8	.9	.8
Connecticut	3,956	4,047	4,341	4,767	4,870	5,434	1.0	1.0	.9	1.0	1.0	1.0
Maine, New Hampshire, Vermont, and Rhode Island	1,704	1,608	1,330	1,080	1,089	1,028	.4	.4	.3	.2	.2	.2
Middle Atlantic	72,076	76,107	79,492	90,150	95,721	93,913	17.9	17.9	17.4	18.6	18.7	17.6
New York	21,092	21,737	22,417	25,932	27,025	25,314	5.2	5.1	4.9	5.3	5.3	4.8
New Jersey	6,455	6,901	6,874	7,526	9,000	8,692	1.6	1.6	1.5	1.6	1.8	1.6
Pennsylvania	44,529	47,469	50,201	56,692	59,696	59,907	11.1	11.2	11.0	11.7	11.6	11.2
East North Central	151,278	159,391	164,423	173,807	182,072	192,251	37.5	37.5	36.0	35.7	35.5	36.1
Ohio	44,998	48,324	49,157	51,092	52,756	57,622	11.2	11.4	10.8	10.5	10.3	10.8
Indiana	31,894	31,824	33,124	35,885	36,885	38,424	7.9	7.5	7.2	7.4	7.2	7.2
Illinois	37,479	39,259	39,086	41,466	44,356	46,382	9.3	9.2	8.6	8.5	8.6	8.7
Michigan	24,327	27,255	29,888	30,936	33,411	34,770	6.0	6.4	6.5	6.4	6.5	6.6
Wisconsin	12,580	12,729	13,168	13,928	14,664	15,053	3.1	3.0	2.9	2.9	2.9	2.8
West North Central	20,920	22,520	23,242	23,918	24,978	25,977	5.2	5.3	5.1	4.9	4.9	4.9
Minnesota	5,891	5,768	6,143	7,077	7,406	7,680	1.5	1.4	1.3	1.4	1.5	1.4
Iowa	4,439	5,047	5,271	4,849	5,508	5,440	1.1	1.2	1.2	1.0	1.1	1.0
Missouri	6,847	7,685	7,896	8,154	8,243	8,494	1.7	1.8	1.7	1.7	1.6	1.6
North Dakota and South Dakota	2,425	2,390	2,113	2,191	2,211	2,996	.6	.5	.5	.5	.4	.6
Nebraska and Kansas	1,318	1,630	1,819	1,647	1,610	1,367	.3	.4	.4	.3	.3	.3
South Atlantic	55,316	57,891	63,816	67,866	72,052	80,491	13.7	13.6	14.0	14.0	14.1	15.1
Delaware and Maryland	9,351	9,884	10,968	12,817	13,288	14,082	2.3	2.3	2.4	2.6	2.6	2.6
District of Columbia	968	813	[1] 718	[1] 638	[1] 541	[1] 897	.2	0.2	[1] .2	[1] .1	[1] .1	[1] .2
Virginia	12,343	12,823	13,323	13,787	13,887	14,279	3.1	3.0	2.9	2.8	2.7	2.7
West Virginia	14,661	15,272	16,742	18,205	19,337	20,159	3.6	3.6	3.7	3.8	3.8	3.8
North Carolina	9,295	9,980	11,187	11,595	12,376	15,352	2.3	2.4	2.4	2.4	2.4	2.9
South Carolina	3,800	3,921	4,442	4,401	4,301	5,118	1.0	.9	1.0	.9	.9	.9
Georgia and Florida	4,898	5,198	6,436	6,923	8,322	10,604	1.2	1.2	1.4	1.4	1.6	2.0
East South Central	40,771	42,709	47,418	49,849	52,103	54,929	10.1	10.0	10.4	10.3	10.2	10.3
Kentucky	11,340	11,873	15,453	16,148	16,834	17,644	2.8	2.8	3.4	3.3	3.3	3.3
Tennessee	13,588	14,120	14,952	14,075	13,896	14,811	3.4	3.3	3.3	2.9	2.7	2.8
Alabama and Mississippi	15,843	16,716	17,013	19,626	21,373	22,474	3.9	3.9	3.7	4.1	4.2	4.2
West South Central: Arkansas, Louisiana, Oklahoma, and Texas	802	839	802	1,099	1,166	1,084	.2	.2	.2	.2	.2	.2
Mountain	8,982	8,898	10,823	12,455	13,866	14,098	2.2	2.1	2.4	2.6	2.7	2.7
Colorado	3,242	3,340	3,752	3,877	4,500	4,705	.8	.8	.8	.8	.9	.9
Utah	3,046	2,417	2,334	2,706	2,868	2,974	.8	.6	.5	.6	.6	.6
Montana and Idaho	1,045	1,108	1,066	1,190	1,075	995	.3	.3	.3	.3	.2	.2
Wyoming	1,328	1,438	1,977	1,986	2,196	2,601	.3	.3	.4	.4	.4	.5
New Mexico	138	107	1,132	2,169	2,505	2,084	(2)	(2)	.3	.4	.5	.4
Arizona and Nevada	133	488	562	577	722	739	(2)	.1	.1	.1	.1	.1

See footnote at end of table.

Table 61.—Total bituminous coal and lignite shipments and percent of grand total shipments, by geographic division and State of destination—Continued

Geographic division and State of destination	Thousand short tons						Percent of total					
	1961	1962	1963	1964	1965	1966	1961	1962	1963	1964	1965	1966
Pacific	3,162	2,390	2,518	2,789	3,176	2,575	.8	.6	.6	.6	.6	.5
Washington and Oregon	992	964	828	774	798	687	.3	.2	.2	.2	.2	.1
California	2,170	1,426	1,690	2,015	2,378	1,888	.5	.4	.4	.4	.4	.4
Alaska	710	893	855	842	789	858	.2	.2	.2	.2	.1	.2
Canada [3]	11,166	11,702	13,724	14,180	15,634	15,807	2.8	2.8	3.0	2.9	3.0	3.0
Mexico	55	53	48	54	60	54	(2)	(2)	(2)	(2)	(2)	(2)
Destinations not revealable	1,148	1,105	1,350	1,496	1,385	1,211	.3	.2	.3	.3	.3	.2
U.S. railroad fuel	1,782	1,602	1,452	1,321	1,241	1,260	.4	.4	.3	.3	.2	.2
U.S. Great Lakes dock storage	−718	−29	70	−327	−252	−6	−.2	(2)	(2)	−.1	(2)	−(2)
U.S. tidewater dock storage	19	---	6	9	10	4	(2)	---	(2)	(2)	(2)	(2)
Vessel fuel	1,083	1,183	1,090	1,106	1,004	1,054	.3	.3	.2	.2	.2	.2
Bunker fuel	3	12	18	17	13	13	(2)	(2)	(2)	(2)	(2)	(2)
Overseas exports	23,780	27,041	33,317	33,733	34,746	33,527	5.9	6.4	7.3	7.0	6.8	6.3
Coal used at mines and sales to employees	1,366	1,272	1,753	1,956	1,969	2,098	.3	.3	.4	.4	.4	.4
Net change in mine inventory	−63	−949	−97	−362	152	291	(2)	−.2	(2)	−.1	(2)	.1

[1] A considerable block of tonnage is included under "Destinations not revealable."
[2] Less than one-tenth of 1 percent.
[3] Includes shipments to Canadian Great Lakes commercial docks and Canadian railroad companies.

Table 62.—The changing levels of bituminous coal and lignite markets—indexes of physical volumes shipped to markets, 1957 and 1962–66, by geographic division, State of destination, and consumer use

Geographic division, State of destination, and consumer use	1957 (thousand short tons)	Index 1957 = 100 (except where noted)				
		1962	1963	1964	1965	1966
Total	493,895	86.0	92.4	98.3	103.8	107.8
Electric utilities	160,754	120.4	131.5	142.7	155.1	169.0
Coke and gas plants	112,901	68.6	73.3	84.7	89.0	89.1
Retail dealers	39,230	73.0	66.3	58.4	58.2	52.7
All others (includes vessel and bunker fuel)	108,711	87.6	90.8	92.2	92.8	93.7
Railroad fuel (U.S. and Canada)	9,581	18.0	16.1	15.0	13.7	13.7
Canadian Great Lakes commercial docks (consumer use not available)	2,785	26.1	21.3	30.0	38.6	15.4
U.S. Great Lakes dock storage (consumer use not available) [1]	NA	−109.5	23.0	−207.6	−182.9	−102.0
U.S. tidewater dock storage (consumer use not available) [2]	NA	---	23.1	34.6	38.5	15.4
Coal used at mines and sales to employees	3,125	40.7	56.1	62.6	63.0	67.1
Net change in mine inventory	1,142	−183.1	−108.5	−131.7	13.3	25.5
Overseas exports (excludes Canada—consumer use not available)	55,666	48.6	59.9	60.6	62.4	60.2
New England	11,909	83.9	84.1	84.0	89.3	91.3
Electric utilities	6,012	120.2	129.2	136.4	149.8	157.3
Coke and gas plants	1,345	35.3	35.1	35.4	35.1	33.8
Retail dealers	1,279	35.2	23.5	19.2	16.7	14.5
All others	3,273	57.0	45.1	33.2	29.1	23.8
Massachusetts	5,354	81.1	81.2	77.7	87.4	82.5
Electric utilities	2,575	119.1	133.3	133.0	159.5	156.1
Coke and gas plants	751	.0	.0	.0	.0	.0
Retail dealers	755	38.3	21.5	21.2	16.0	14.4
All others	1,273	77.5	59.0	45.1	35.7	22.5
Connecticut	4,105	98.6	105.7	116.1	118.6	132.4
Electric utilities	2,567	127.2	136.0	155.2	159.8	182.1
Coke and gas plants	594	75.3	79.5	80.1	79.5	76.4
Retail dealers	139	46.8	34.5	18.7	9.4	8.6
All others	805	33.5	41.0	34.8	35.3	36.4
Maine, New Hampshire, Vermont, and Rhode Island	2,450	65.6	54.3	44.1	44.4	42.0
Electric utilities	870	102.6	97.2	90.7	91.5	87.8
Retail dealers	385	24.9	23.4	15.6	20.5	16.9
All others	1,195	51.0	33.0	19.3	17.9	16.7
Middle Atlantic	92,596	82.2	85.8	97.4	103.4	101.4
Electric utilities	31,662	104.5	108.3	121.4	134.0	132.8
Coke and gas plants	38,448	62.5	68.0	83.5	90.1	87.1
Retail dealers	2,498	61.6	54.3	45.8	53.0	43.8
All others	19,988	87.2	88.5	92.3	86.8	86.5
New York	26,753	81.3	83.8	96.9	101.0	94.6
Electric utilities	12,335	88.8	91.1	104.4	112.2	101.2
Coke and gas plants	5,693	70.2	70.6	100.5	109.7	103.3
Retail dealers	769	60.7	48.5	39.9	47.9	33.8
All others	7,956	79.5	85.3	88.2	82.7	84.0
New Jersey	7,814	88.3	88.0	96.3	115.2	111.2
Electric utilities	4,284	108.6	115.1	133.7	168.2	166.9
Coke and gas plants	1,249	35.2	31.8	28.0	35.0	40.9
Retail dealers	130	37.7	44.6	20.0	31.5	12.3
All others	2,151	81.9	69.2	66.1	61.3	47.1
Pennsylvania	58,029	81.8	86.5	97.7	102.9	103.2
Electric utilities	15,043	116.3	120.6	131.9	142.1	148.9
Coke and gas plants	31,506	62.2	68.9	82.6	88.7	86.0
Retail dealers	1,599	64.0	57.9	50.0	57.2	51.1
All others	9,881	94.6	95.3	101.3	95.6	97.0
East North Central	[3] 170,697	93.4	96.3	101.5	106.7	112.6
Electric utilities	66,436	112.5	118.8	128.1	138.2	151.7
Coke and gas plants	38,757	68.4	71.5	80.9	83.1	86.6
Retail dealers	21,321	74.8	66.7	58.7	59.8	54.9
All others	[3] 44,183	95.5	98.6	100.3	102.5	104.5
Ohio	55,612	86.9	88.4	91.9	94.9	103.6
Electric utilities	20,193	108.5	113.9	117.7	122.8	140.3
Coke and gas plants	15,661	60.5	57.9	66.8	69.1	78.1
Retail dealers	5,077	61.1	51.7	49.3	50.6	45.9
All others	14,681	94.1	98.6	97.8	99.1	100.4
Indiana	34,938	91.1	94.8	102.7	105.6	110.0
Electric utilities	12,853	115.2	119.5	132.4	139.7	144.7
Coke and gas plants	13,736	69.9	77.9	86.3	86.8	89.2
Retail dealers	2,796	69.0	62.2	48.7	44.6	41.6
All others	5,553	99.0	96.0	101.7	103.7	115.5

See footnotes at end of table.

Table 62.—The changing levels of bituminous coal and lignite markets—indexes of physical volumes shipped to markets, 1957 and 1962–66, by geographic division, State of destination, and consumer use—Continued

Geographic division, State of destination, and consumer use	1957 (thousand short tons)	Index 1957 = 100 (except where noted)				
		1962	1963	1964	1965	1966
Illinois	[3]42,718	91.9	91.5	97.1	103.8	108.6
Electric utilities	18,584	109.7	112.6	123.7	135.5	149.6
Coke and gas plants	3,925	73.2	71.3	84.3	91.9	92.4
Retail dealers	8,623	67.3	61.3	55.8	52.9	49.4
All others	[3]11,586	88.1	87.0	89.4	95.0	92.2
Michigan	26,255	103.8	113.8	117.8	127.3	132.4
Electric utilities	9,839	124.8	138.0	149.3	172.4	187.7
Coke and gas plants	4,877	87.1	98.7	108.9	109.5	102.8
Retail dealers	3,368	70.0	64.0	52.6	60.3	54.4
All others	8,171	102.5	114.3	112.2	111.1	115.8
Wisconsin	11,174	113.9	117.8	124.6	131.2	134.7
Electric utilities	4,967	108.1	122.6	134.1	139.3	152.7
Coke and gas plants	558	52.9	60.9	74.7	92.8	83.0
Retail dealers	1,457	189.8	166.0	142.5	160.1	145.2
All others	4,192	102.5	103.1	113.8	116.7	116.6
West North Central	[3]20,824	108.1	111.6	114.9	119.9	124.7
Electric utilities	8,278	147.6	159.2	166.9	178.3	198.8
Coke and gas plants	1,518	50.6	51.1	78.3	75.0	76.5
Retail dealers	4,079	79.9	63.8	53.4	52.8	46.3
All others	[3]6,949	90.3	96.2	96.9	99.6	93.2
Minnesota	5,332	108.2	115.2	132.7	138.9	144.0
Electric utilities	1,810	169.0	176.7	212.7	223.4	255.5
Coke and gas plants	1,206	52.4	55.0	85.5	78.9	78.9
Retail dealers	553	131.5	122.1	105.1	128.9	128.8
All others	1,763	76.7	91.1	91.7	96.3	79.0
Iowa	[3]4,878	103.5	108.1	99.4	112.9	111.5
Electric utilities	1,846	127.1	137.3	125.6	149.7	157.9
Retail dealers	1,254	63.9	56.9	43.7	45.1	35.2
All others	[3]1,778	106.8	113.7	111.5	122.6	117.2
Missouri	6,862	112.0	115.1	118.1	120.1	123.8
Electric utilities	2,605	176.2	200.2	208.0	212.7	228.3
Coke and gas plants	312	43.6	36.2	50.6	59.6	67.0
Retail dealers	1,495	61.7	36.2	30.6	23.3	18.5
All others	2,450	83.1	82.8	86.6	88.5	84.2
North Dakota and South Dakota	2,416	98.9	87.5	90.7	91.5	124.0
Electric utilities	1,378	103.7	89.5	94.6	98.5	157.7
Retail dealers	517	118.6	101.4	93.0	84.5	77.0
All others	521	66.8	68.3	77.9	80.0	81.6
Nebraska and Kansas	1,336	122.0	136.2	123.3	120.5	102.3
Electric utilities	639	124.3	156.2	144.8	165.6	124.6
Retail dealers	260	75.8	56.9	43.1	34.6	23.1
All others	437	146.2	154.0	139.6	105.7	116.9
South Atlantic	52,560	110.1	121.4	129.1	137.1	153.1
Electric utilities	22,251	143.6	161.7	174.0	192.5	231.5
Coke and gas plants	11,321	73.5	79.6	90.5	95.5	92.0
Retail dealers	4,765	70.0	67.2	66.3	55.5	52.6
All others	14,223	100.5	109.9	110.7	110.8	112.9
Delaware and Maryland	10,358	95.4	105.9	118.9	128.3	136.0
Electric utilities	3,000	144.2	167.3	192.5	233.1	270.3
Coke and gas plants	5,414	82.6	81.5	92.8	94.5	91.7
Retail dealers	420	56.9	80.2	84.3	53.3	26.4
All others	1,524	55.6	78.9	76.4	62.6	58.8
District of Columbia	1,097	74.1	[4]65.5	[4]58.2	[4]49.3	[4]81.8
Electric utilities	609	52.5	59.1	61.4	49.4	81.6
Retail dealers	188	78.7	80.3	72.3	63.8	53.7
All others	300	115.0	[4]69.0	[4]42.7	[4]40.0	[4]99.7
Virginia	10,553	121.5	126.2	130.6	131.6	135.3
Electric utilities	4,435	162.2	166.9	176.4	170.8	185.9
Coke and gas plants	165	19.4	30.3	76.4	161.2	157.6
Retail dealers	1,756	62.6	59.3	61.4	51.8	47.3
All others	4,197	107.1	115.1	113.4	122.4	117.8
West Virginia	15,771	96.8	106.2	115.4	122.6	127.8
Electric utilities	6,290	111.2	114.2	121.3	138.3	152.5
Coke and gas plants	5,742	66.4	79.2	88.7	94.6	90.4
Retail dealers	302	112.9	94.0	85.4	92.4	101.7
All others	3,437	119.9	137.5	152.0	143.3	147.4
North Carolina	8,716	114.5	128.4	133.0	142.0	176.1
Electric utilities	4,953	135.4	160.0	171.4	189.1	246.8
Retail dealers	1,248	70.6	63.9	59.8	50.2	51.2
All others	2,515	95.1	98.0	93.9	94.7	98.9
South Carolina	3,050	128.6	145.6	144.3	141.0	167.8
Electric utilities	856	236.8	289.0	303.9	278.9	378.5
Retail dealers	321	90.0	91.0	94.1	82.2	92.2
All others	1,873	85.7	89.5	80.0	88.1	84.5

See footnotes at end of table.

Table 62.—The changing levels of bituminous coal and lignite markets—indexes of physical volumes shipped to markets, 1957 and 1962–66, by geographic division, State of destination, and consumer use—Continued

Geographic division, State of destination, and consumer use	1957 (thousand short tons)	Index 1957 = 100 (except where noted)				
		1962	1963	1964	1965	1966
South Atlantic—Continued						
Georgia and Florida	3,015	172.4	213.5	229.6	276.0	351.7
Electric utilities	2,108	207.8	266.4	286.1	356.4	455.3
Retail dealers	530	63.4	56.4	53.8	42.1	42.1
All others	377	127.9	138.2	160.7	155.4	208.0
East South Central	43,283	98.7	109.6	115.2	120.4	126.9
Electric utilities	23,572	122.4	137.6	145.3	149.5	159.8
Coke and gas plants	10,380	70.3	73.6	81.7	88.6	90.0
Retail dealers	2,494	72.6	80.2	62.1	56.0	50.7
All others	6,837	69.3	78.1	81.5	91.5	97.3
Kentucky	11,167	106.3	138.4	144.6	150.7	158.0
Electric utilities	6,758	117.8	154.4	165.4	176.6	187.6
Coke and gas plants	1,683	83.8	111.5	110.9	114.0	104.0
Retail dealers	834	77.2	95.3	77.3	62.4	66.2
All others	1,892	98.4	123.9	129.8	129.9	140.0
Tennessee	15,104	93.5	99.0	93.2	92.0	98.1
Electric utilities	9,876	112.8	119.4	112.1	107.6	115.7
Coke and gas plants	258	96.5	84.5	59.3	70.2	69.8
Retail dealers	1,206	71.6	72.1	61.2	63.2	50.4
All others	3,764	49.5	55.0	56.2	61.9	69.0
Alabama and Mississippi	17,012	98.3	100.0	115.4	125.6	132.1
Electric utilities	6,938	140.7	147.1	173.0	182.9	195.3
Coke and gas plants	8,439	66.8	65.7	76.5	84.1	87.8
Retail dealers	454	66.5	73.8	36.6	25.1	22.9
All others	1,181	85.8	78.6	84.8	124.4	119.5
West South Central: Arkansas, Louisiana, Oklahoma, and Texas	1,868	44.9	42.9	58.8	62.4	58.0
Electric utilities [5]	65	.0	100.0	75.0	.0	.0
Coke and gas plants	1,050	61.5	58.7	82.5	94.9	90.3
Retail dealers	161	28.6	23.0	19.3	17.4	17.4
All others	592	24.8	22.3	31.1	24.0	18.2
Mountain	8,779	101.4	123.3	141.9	157.9	160.6
Electric utilities	1,437	263.6	405.8	485.0	572.5	605.0
Coke and gas plants	3,772	60.9	65.3	74.1	85.3	83.9
Retail dealers	1,350	88.4	83.1	86.3	85.0	77.3
All others	2,220	73.0	63.2	68.7	57.3	53.9
Colorado	3,264	102.3	115.0	118.8	137.9	144.1
Electric utilities	687	227.4	264.3	281.2	357.5	401.5
Coke and gas plants	1,324	70.4	85.6	83.5	99.8	93.1
Retail dealers	326	100.0	87.7	102.1	113.2	105.2
All others	927	56.1	55.7	54.7	38.1	40.1
Utah	3,748	64.5	62.3	72.2	76.5	79.3
Electric utilities	367	124.0	118.8	111.7	102.7	132.4
Coke and gas plants	2,448	55.8	54.4	69.0	77.5	78.9
Retail dealers	334	81.7	73.1	69.5	62.6	55.7
All others	599	54.1	53.9	62.4	64.3	61.9
Montana and Idaho	923	120.0	115.5	128.9	116.5	107.8
Electric utilities [6]	1	164.8	160.3	164.2	165.9	181.6
Retail dealers	593	80.9	80.8	80.6	72.8	63.6
All others	329	101.2	91.2	127.1	105.2	89.1
Wyoming	607	236.9	325.7	318.9	361.8	428.5
Electric utilities	340	326.8	520.3	518.2	597.4	716.8
Retail dealers	61	98.4	86.9	82.0	82.0	63.9
All others	206	129.6	75.2	60.2	55.8	60.7
New Mexico [7]	92	9.5	100.0	191.6	221.3	184.1
Electric utilities [7]	37	2.8	100.0	195.0	227.8	190.2
Retail dealers	12	250.0	183.3	150.0	108.3	58.3
All others	43	109.3	58.1	81.4	46.5	30.2
Arizona and Nevada	145	336.6	387.6	397.9	497.9	509.7
Electric utilities [8]	5	100.0	131.0	136.1	177.3	186.3
Retail dealers	24	100.0	158.3	225.0	308.3	383.3
All others	116	111.2	73.3	57.8	46.6	19.8
Pacific	3,142	76.1	80.1	88.8	101.1	82.0
Electric utilities	4	.0	.0	.0	.0	.0
Coke and gas plants	1,708	80.9	96.8	115.7	137.1	107.7
Retail dealers	377	77.7	72.4	75.9	87.8	71.1
All others	1,053	68.0	56.2	50.0	47.9	44.4
Washington and Oregon	1,324	72.8	62.5	58.5	60.3	51.9
Electric utilities	3	.0	.0	.0	.0	.0
Retail dealers	367	78.2	73.3	75.7	86.6	69.2
All others	954	71.0	58.6	52.0	50.3	45.4
California	1,818	78.4	93.0	110.8	130.8	103.9
Electric utilities	1	.0	.0	.0	.0	.0
Coke and gas plants	1,708	80.9	96.8	115.7	137.1	107.7
Retail dealers	10	60.0	40.0	80.0	130.0	140.0
All others	99	39.4	33.3	31.3	24.2	35.4

See footnotes at end of table.

Table 62.—The changing levels of bituminous coal and lignite markets—indexes of physical volumes shipped to markets, 1957 and 1962–66, by geographic division, State of destination, and consumer use—Continued

Geographic division, State of destination, and consumer use	1957 (thousand short tons)	Index 1957 = 100 (except where noted)				
		1962	1963	1964	1965	1966
Alaska	829	107.7	103.1	101.6	95.2	103.5
Electric utilities	470	61.5	71.5	75.3	92.3	43.4
Retail dealers	49	155.1	108.2	89.8	81.6	89.8
All others	310	170.3	150.3	143.2	101.6	196.8
Canada [9]	17,878	65.5	76.8	79.3	87.4	88.4
Electric utilities	567	206.2	437.9	560.0	705.6	794.7
Coke and gas plants	4,602	109.6	122.8	120.5	115.0	127.2
Retail dealers	857	74.6	94.6	64.4	83.8	65.1
All others	7,183	55.7	57.0	55.0	62.2	61.4
Canadian Great Lakes commercial docks (consumer use not available)	2,785	26.1	21.3	30.0	38.6	15.4
Canadian railroad companies	1,884	6.5	4.9	6.2	4.0	2.5
Mexico [10]	NA	93.0	84.2	94.7	105.3	94.7
All others [10]	NA	93.0	84.2	94.7	105.3	94.7
Destinations not revealable [11]	---	80.1	97.8	108.4	100.4	87.8
Electric utilities [11]	---	42.1	34.2	61.8	105.0	62.0
Coke and gas plants [11]	---	172.7	161.0	161.5	54.8	83.4
Retail dealers [11]	---	32.3	32.3	35.4	89.8	80.8
All others [11]	---	53.2	133.2	134.1	138.8	124.6
Destinations not available:						
Great Lakes vessel fuel [12]	1,859	63.6	58.6	59.5	54.0	56.7
Tidewater bunker fuel [12]	41	29.3	43.9	41.5	31.7	31.7
Railroad fuel, United States companies [13]	7,697	22.4	18.9	17.2	16.1	16.4

NA Not available.

[1] For Great Lakes dock storage the annual base period is 1959 = 100. The 1959 annual tonnage was 304 tons.

[2] For tidwater dock storage the annual base period is 1959 = 100. The 1959 annual tonnage was 26 tons.

[3] District 15 shipments to Illinois included with Iowa.

[4] A considerable block of tonnage is included under "Destinations not revealable".

[5] For electric utilities in Arkansas, Louisiana, Oklahoma, and Texas the annual base period is 1963 = 100. The 1963 tonnage shipped to electric utilities was 24,000 tons.

[6] For electric utilities in Montana and Idaho the annual base period is 1959 = 100. The 1959 tonnage shipped to electric utilities was 179,000 tons.

[7] For total shipments and electric utilities to New Mexico the annual base period is 1963 = 100. Total shipments to New Mexico were 1,132,000 tons and for electric utilities 1,085,000 tons.

[8] For electric utilities in Arizona and Nevada the annual base period is 1962 = 100. The 1962 annual tonnage shipped to electric utilities was 335,000 tons.

[9] Includes shipments to Canadian Great Lakes commercial docks and Canadian railroad companies.

[10] Since tonnages for Mexico were first published in 1960, yearly indexes are based on 1960 = 100. In thousands of tons, 1960 tons were total 57, all others 57.

[11] Since "Destinations not revealable" were first published during 1960, the calendar year indexes are based on 1960 = 100. In thousands of tons these figures are as follows: Calendar year 1960 total not revealable 1,380, electric utilities 497, coke and gas plants 374, retail dealers 99, all others 410.

[12] Included in summary at beginning of table in all others.

[13] Included in summary at beginning of table in railroad fuel.

Table 63.—Stocks of bituminous coal and lignite in the hands of commercial consumers and in the retail dealers' yards in the United States

Date	Total stocks (short tons)	Days' supply at current rate of consumption on date of stocktaking						
		Electric power utilities	Manufacturing and mining industries				Retail dealers	Total
			Oven coke plants	Steel and rolling mills	Cement mills	Other manufacturing and mining industries		
1965:								
Jan. 31	70,435,000	71	37	16	45	39	3	52
Feb. 28	67,141,000	67	35	16	39	37	3	49
Mar. 31	64,923,000	66	36	18	32	37	2	49
Apr. 30	65,489,000	74	36	22	30	41	5	55
May 31	68,692,000	79	37	23	35	47	13	60
June 30	71,418,000	78	38	24	38	47	17	60
July 31	66,149,000	74	30	25	40	47	14	57
Aug. 31	69,308,000	73	33	26	42	49	11	57
Sept. 30	70,418,000	76	34	24	41	49	7	58
Oct. 31	73,000,000	80	38	22	40	43	5	59
Nov. 30	75,226,000	78	42	21	43	39	5	58
Dec. 31	77,393,000	73	45	20	57	40	4	56
1966:								
Jan. 31	71,889,000	64	43	16	33	37	3	49
Feb. 28	69,055,000	62	39	13	39	38	2	48
Mar. 31	73,526,000	70	44	17	43	46	3	56
Apr. 30	68,115,000	69	34	16	41	45	6	54
May 31	69,761,000	75	33	18	43	48	10	58
June 30	73,173,000	71	34	20	46	52	17	58
July 31	65,344,000	63	26	26	46	51	19	52
Aug. 31	68,558,000	67	28	27	50	50	10	53
Sept. 30	72,471,000	74	29	23	48	49	6	56
Oct. 31	75,336,000	77	32	19	51	44	4	57
Nov. 30	75,534,000	73	33	17	51	39	4	54
Dec. 31	74,466,000	67	37	16	51	38	3	51

Table 64.—Average value per ton, f.o.b. mines, of bituminous coal and lignite produced in the United States, by States

State	1965				1966			
	Underground	Strip	Auger	Total	Underground	Strip	Auger	Total
Alabama	$8.22	$4.99	$6.67	$7.16	$8.43	$4.64	$7.66	$7.04
Alaska	---	6.82	---	6.82	---	7.50	---	7.50
Arkansas	7.46	7.18	---	7.27	7.60	6.72	---	6.96
Colorado	5.73	3.35	---	5.10	5.73	3.37	3.20	4.99
Illinois	3.78	3.72	---	3.74	3.90	3.81	---	3.85
Indiana	4.07	3.81	---	3.85	4.30	3.87	---	3.92
Iowa	3.98	3.44	---	3.54	3.84	3.64	---	3.69
Kansas	---	4.64	---	4.64	---	4.77	---	4.77
Kentucky	4.24	3.13	3.04	3.78	4.35	3.25	3.07	3.90
Maryland	4.02	3.43	3.00	3.63	3.82	3.44	3.44	3.57
Missouri	4.84	4.14	---	4.15	5.00	4.14	---	4.14
Montana:								
Bituminous	7.23	7.53	---	7.24	7.08	7.72	---	7.10
Lignite	5.72	1.93	---	1.96	4.50	1.95	---	1.96
Total	7.16	1.96	---	2.88	7.03	1.99	---	3.08
Mew Mexico	9.07	2.44	---	3.33	8.08	2.52	---	3.31
North Dakota (lignite)	4.57	2.14	---	2.14	---	1.97	---	1.97
Ohio	4.31	3.49	3.17	3.71	4.39	3.54	3.54	3.79
Oklahoma	7.50	5.65	7.41	5.67	7.50	5.83	7.50	5.85
Pennsylvania	5.68	3.69	3.69	5.07	5.91	3.72	3.68	5.22
South Dakota (lignite)	---	4.87	---	4.87	---	4.75	---	4.75
Tennessee	3.80	3.20	3.32	3.57	3.89	3.64	3.20	3.77
Utah	6.37	---	---	6.37	5.77	---	---	5.77
Virginia	4.27	2.98	2.90	4.09	4.50	3.46	3.16	4.31
Washington	9.09	8.80	---	9.07	8.83	7.50	---	8.77
West Virginia	5.00	3.64	3.82	4.87	5.18	3.83	4.23	5.04
Wyoming	6.10	3.00	---	3.11	6.22	3.12	---	3.23
Total	4.93	3.57	3.36	4.44	5.05	3.64	3.58	4.54

Table 65.—Production and average value per ton, f.o.b. mines, of bituminous coal and lignite sold in open market and not sold in open market, in 1966, by States

State	Production					Average value per ton, f.o.b. mines		
	Sold in open market		Not sold in open market					
	Short tons	Percentage of total	Short tons	Percentage of total	Total (short tons)	Sold in open market	Not sold in open market	Total
Alabama	7,743,401	54.5	6,475,321	45.5	14,218,722	$5.64	$8.71	$7.04
Alaska	927,145	100.0	----	----	927,145	7.50	----	7.50
Arkansas	235,748	100.0	----	----	235,748	6.96	----	6.96
Colorado	3,884,785	74.4	1,337,587	25.6	5,222,372	4.52	6.37	4.99
Illinois	63,571,188	100.0	----	----	63,571,188	3.85	----	3.85
Indiana	17,326,350	100.0	----	----	17,326,350	3.92	----	3.92
Iowa	1,025,264	100.0	----	----	1,025,264	3.69	----	3.69
Kansas	1,121,546	100.0	----	----	1,121,546	4.77	----	4.77
Kentucky	88,078,287	94.5	5,077,590	5.5	93,155,877	3.79	5.88	3.90
Maryland	1,222,408	100.0	----	----	1,222,408	3.57	----	3.57
Missouri	3,582,204	100.0	----	----	3,582,204	4.14	----	4.14
Montana:								
Bituminous	90,156	99.2	754	.8	90,910	7.09	7.32	7.10
Lignite	328,265	100.0	5	----	328,270	1.96	5.40	1.96
Total	418,421	99.8	759	.2	419,180	3.07	7.31	3.08
New Mexico	2,389,278	86.7	366,018	13.3	2,755,296	2.53	8.36	3.31
North Dakota (lignite)	3,460,975	97.7	81,864	2.3	3,542,839	1.98	1.45	1.97
Ohio	38,847,108	89.6	4,494,323	10.4	43,341,431	3.83	3.50	3.79
Oklahoma	843,499	100.0	----	----	843,499	5.85	----	5.85
Pennsylvania	50,868,410	62.5	30,574,391	37.5	81,442,801	4.23	6.86	5.22
South Dakota (lignite)	9,500	100.0	----	----	9,500	4.75	----	4.75
Tennessee	6,299,983	99.9	8,541	.1	6,308,524	3.77	3.58	3.77
Utah	2,972,452	64.1	1,662,878	35.9	4,635,330	4.84	7.44	5.77
Virginia	34,181,244	96.1	1,383,267	3.9	35,564,511	4.21	6.81	4.31
Washington	58,637	100.0	----	----	58,637	8.77	----	8.77
West Virginia	130,344,525	87.1	19,336,176	12.9	149,680,701	4.89	6.04	5.04
Wyoming	1,645,352	44.8	2,024,785	55.2	3,670,137	3.63	2.90	3.23
Total	461,057,710	86.4	72,823,500	13.6	533,881,210	4.24	6.43	4.54

Table 66.—Summary of operations at lignite mines in the United States, in 1966, by States [1]

Item	Montana	North Dakota	South Dakota	Total
UNDERGROUND MINES				
Number of mines	1	---	---	1
Production: Shot from solid ... short tons	1,619	---	---	1,619
Average value per ton	$4.50	---	---	$4.50
Average number of men working daily	3	---	---	3
Average number of days worked	198	---	---	198
Number of man-days worked	593	---	---	593
Average tons per man per day	2.73	---	---	2.73
STRIP MINES				
Number of strip mines	2	25	1	28
Production ... short tons	326,651	3,542,839	9,500	3,878,990
Average value per ton	$1.95	$1.97	$4.75	$1.97
Number of shovels and draglines	3	47	1	51
Average number of men working daily	15	283	4	302
Average number of days worked	245	220	125	220
Number of man-days worked	3,671	62,364	475	66,510
Average tons per man per day	88.98	56.81	20.00	58.32
TOTAL, ALL LIGNITE MINES				
Number of mines	3	25	1	29
Production (short tons):				
Shipped by rail [2]	323,745	2,111,347	---	2,435,092
Shipped by truck	4,520	367,909	9,500	381,929
Used at mines [3]	5	1,063,583	---	1,063,588
Total	328,270	3,542,839	9,500	3,880,609
Average value per ton	$1.96	$1.97	$4.75	$1.98
Average number of men working daily	18	283	4	305
Average number of days worked	237	220	125	220
Number of man-days worked	4,264	62,364	475	67,103
Average tons per man per day	76.99	56.81	20.00	57.83

[1] Exclusive of Texas (lignite).

[2] Includes coal loaded at mines directly into railroad cars and hauled by trucks to railroad sidings.

[3] Includes coal used at mine for power and heat, made into beehive coke at mine, used by mine employees, used for all other purposes at mine, and transported from mine to point of use by conveyor or tram.

Table 67.—Bituminous coal [1] imported for consumption in the United States, by countries and customs districts

(Short tons)

Country and customs district	1964	1965	1966
Country:			
North America:			
Canada	292,982	184,328	177,672
Mexico	51	---	---
South America: Brazil	---	55	---
Europe: United Kingdom	---	3	---
Asia: Japan	26	13	---
Total	293,059	184,399	177,672
Customs district:			
Buffalo	61	---	2,195
Cleveland	65	---	---
Detroit	---	1,000	427
Duluth	---	368	7,584
Great Falls	14,112	14,907	13,219
Honolulu	76	13	---
Juneau	10	5	---
Laredo	51	---	---
Los Angeles	---	3	---
New York City	---	55	---
Pembina	212	1,255	1,368
Portland, Maine	276,471	166,747	152,879
Seattle	2,001	46	---
Total	293,059	184,399	177,672

[1] Includes slack, culm, and lignite.

Table 68.—Exports of bituminous coal, by country groups

(Thousand short tons)

Year	Canada (including Newfoundland) and Mexico	Overseas (all other countries) [1]							
		West Indies and Central America	Miquelon, Bermuda and Greenland	South America	Europe	Asia	Africa	Total overseas	Grand total
1957–61 (average)	13,229	21	2	1,837	26,786	5,114	112	33,872	47,101
1962	11,461	10	5	2,159	18,284	6,467	27	26,952	38,413
1963	13,809	6	5	1,933	25,218	6,064	43	33,269	47,078
1964	14,241	2	3	2,099	25,092	6,515	17	[r] 33,728	47,969
1965	15,721	2	3	1,996	24,957	7,491	11	34,460	50,181
1966	15,882	(2)	5	2,613	22,984	7,794	9	33,420	49,302

[r] Revised.

[1] Oceania, no transactions except in 1961, less than ½ unit, and 15,000 short tons in 1966.

[2] Less than ½ unit.

Table 69.—Bituminous coal exported from the United States, by countries [1]

(Short tons)

Country	1963	1964	1965	1966
North America:				
Canada	13,762,062	14,187,335	15,660,773	15,828,528
Central America:				
Guatemala	406	---	390	133
Honduras	255	450	302	122
Other	3,603	225	339	313
Mexico	47,036	53,453	60,439	52,535
Miguelon	5,004	3,415	2,832	5,028
West Indies: British:				
Trinidad and Tobago	444	878	1,082	---
Other	404	30	105	326
Dominican Republic	---	89	984	---
French	985	326	---	---
Netherlands Antilles	28	---	---	---
Total	13,820,227	14,246,201	15,727,246	15,886,985
South America:				
Argentina	531,390	765,133	619,662	662,523
Brazil	1,155,806	1,101,308	1,210,517	1,739,113
Chile	180,193	183,783	126,194	156,182
Uruguay	47,684	47,333	37,015	54,075
Other	18,151	1,932	2,330	954
Total	1,933,224	2,099,489	1,995,718	2,612,847
Europe:				
Austria	44,790	30,979	---	---
Belgium-Luxembourg	2,107,443	2,184,827	2,214,749	1,840,544
Czechoslovakia	76,718	---	---	---
Denmark	43,785	17,505	5,833	1,855
France	2,002,294	1,923,835	2,069,602	1,573,517
Germany:				
East	---	267,921	120,614	157,559
West	5,508,144	5,161,464	4,729,895	4,894,331
Greece	70,563	35,181	26,328	---
Ireland	464,269	325,290	313,115	355,516
Italy	7,611,833	7,859,796	8,930,666	7,805,553
Netherlands	4,170,478	3,985,711	3,371,223	3,165,221
Norway	13,386	93,116	164,663	220,484
Portugal	229,095	162,941	103,604	120,598
Spain	1,405,748	1,406,607	1,376,609	1,193,662
Sweden	874,763	990,733	870,398	951,280
Switzerland	86,995	21,601	38,816	24,116
Yugoslavia	404,220	472,224	558,394	596,095
Other	103,247	151,850	62,161	86,824
Total	25,217,771	25,091,581	24,956,670	22,987,155
Africa:				
Libya	10,405	51	310	---
United Arab Republic (Egypt)	11,233	12,259	---	---
Other	21,273	5,050	10,246	9,418
Total	42,911	17,360	10,556	9,418
Asia:				
Japan	6,052,859	6,514,724	7,491,114	7,790,585
Other	11,443	68	57	270
Total	6,064,302	6,514,792	7,491,171	7,790,855
Oceania: Australia	---	---	---	15,130
Grand total	47,078,435	47,969,423	50,181,361	49,302,390

[1] Amounts stated do not include fuel or bunker coal loaded on vessels engaged in foreign trade, which aggregated 223,142 tons in 1963, 252,785 tons in 1964, 242,833 tons in 1965, and 214,515 tons in 1966.

Table 70.—Bituminous coal exported from the United States, by customs districts

(Short tons)

Customs district	1963	1964	1965	1966
North Atlantic:				
Boston	---	---	15,659	---
New York City	2,645	155	6,355	16,606
Philadelphia	215,845	68,382	32,229	51,772
Portland	1,934	810	726	2,913
Providence	---	2,617	---	3,532
South Atlantic:				
Baltimore	3,477,457	3,257,925	2,791,262	2,389,902
Norfolk	29,675,818	30,531,995	31,933,465	31,473,385
Gulf Coast:				
Galveston	1,455	3,879	17,340	---
Mobile	127	484	321	308
New Orleans	12,304	767	4,867	6,771
Mexican border:				
El Paso	36,303	48,636	49,079	49,024
Houston	---	---	---	52
Laredo	3,215	4,406	10,168	3,392
Nogales	56	---	207	---
Pacific Coast:				
Los Angeles	---	1,260	30	10,027
San Diego	---	---	101	119
San Francisco	236	---	96	---
Seattle	---	500	400	1,970
Northern border:				
Buffalo	160,215	126,300	83,240	1,005,646
Chicago	41,056	16,388	53,672	73,549
Cleveland	10,338,842	11,941,491	13,106,688	13,884,336
Detroit	184,224	135,102	117,380	122,158
Duluth	2,510	5,100	7,123	3,710
Great Falls	2,095	2,310	1,309	---
Minneapolis	212	---	---	---
Ogdensburg	148,613	209,438	257,244	167,565
Pembina	7,101	3,997	1,272	430
Rochester	2,758,490	1,607,481	1,672,630	(1)
St. Albans	7,462	---	18,498	35,223
Miscellaneous:				
Bridgeport	220	---	---	---
Total	47,078,435	47,969,423	50,181,361	49,302,390

(1) Now included in Buffalo district, effective Jan. 1, 1966.

Table 71.—Shipments of bituminous coal to possessions and other areas administered by the United States

(Short tons)

Territory	1964	1965	1966
American Samoa	---	---	119
Guam	89	---	---
Puerto Rico	1,710	1,044	552
Virgin Islands	5	64	40

Table 72.—World production of bituminous coal, anthracite, and lignite by countries [1]

(Thousand short tons)

Country	1962	1963	1964	1965	1966 p [2]
North America:					
Canada:					
Bituminous	8,028	8,702	9,325	9,525	9,313
Lignite	2,256	1,874	1,994	2,064	2,078
Greenland: Bituminous	29	44	26	22	37
Mexico: Bituminous	2,087	2,283	2,345	2,211	2,316
United States:					
Anthracite (Pennsylvania)	16,894	18,267	17,184	14,866	12,941
Bituminous	419,094	456,223	484,048	509,045	530,001
Lignite	3,055	2,705	2,950	3,043	3,881
South America [1]:					
Argentina: Bituminous	234	230	366	412	341
Brazil: Bituminous (including lignite)	2,765	2,834	3,578	3,729	4,041
Chile: Bituminous (mined)	2,045	1,895	1,972	1,904	1,809
Colombia: Bituminous	3,307	3,527	3,307	3,417	e 3,300
Peru: Bituminous and anthracite	180	144	r 162	r 142	170
Venezuela: Bituminous	30	46	42	34	37
Europe:					
Albania: Lignite	332	278	322	r e 330	e 340
Austria:					
Bituminous	109	115	114	65	22
Lignite	6,296	6,672	6,350	6,008	5,824
Belgium: Bituminous and anthracite	r 23,391	r 23,603	23,485	21,810	19,289
Bulgaria:					
Bituminous and anthracite	701	725	r 671	608	540
Lignite	r 22,272	22,349	r 26,181	r 26,996	27,143
Czechoslovakia:					
Bituminous	29,927	31,191	31,211	r 30,568	29,614
Lignite	76,594	80,803	83,340	r 80,707	80,970
Denmark: Lignite	2,818	2,769	r 2,420	r 2,346	e 1,980
France:					
Bituminous and anthracite	57,728	52,649	58,469	56,601	55,488
Lignite	3,177	2,724	2,474	r 2,965	2,826
Germany:					
Bituminous and anthracite:					
East	2,838	2,737	2,579	r 2,488	e 2,420
West	156,417	156,656	156,750	148,897	138,792
Lignite:					
East	272,262	280,228	283,212	r 277,012	275,137
West	111,610	117,572	122,294	r 112,333	108,124
Pech coal: West	1,940	2,209	2,060	1,913	1,280
Greece: Lignite	2,971	3,876	4,191	r 5,521	e 5,620
Hungary:					
Bituminous	3,685	4,090	4,547	4,808	4,806
Lignite	27,901	29,508	30,229	29,845	28,647
Ireland: Bituminous and anthracite	229	257	255	204	198
Italy:					
Bituminous and anthracite	[7] 764	645	r 519	r 429	461
Lignite	1,958	1,506	r 1,326	r 1,122	1,175
Netherlands: Bituminous and anthracite	12,757	12,686	12,655	12,617	10,080
Poland:					
Bituminous	120,818	124,726	129,360	130,989	134,459
Lignite	12,226	16,914	22,355	24,941	27,015
Portugal:					
Anthracite	446	459	489	472	461
Lignite	169	157	111	99	56
Rumania:					
Bituminous and anthracite [3]	5,863	6,234	6,495	6,654	3,649
Lignite	4,707	5,084	5,766	6,679	7,872
Spain:					
Bituminous and anthracite	13,994	14,229	13,444	r 14,528	14,106
Lignite	2,743	2,856	2,870	r 3,153	2,901
Svalbard (Spitzbergen): Bituminous:					
Controlled by Norway	521	421	487	r 470	452
Controlled by U.S.S.R.	405	408	e 661	e 661	e 661
Sweden: Bituminous	163	109	r 93	r 65	33
U.S.S.R.: [4]					
Bituminous and anthracite	425,968	435,558	450,701	r 471,658	e 475,513
Lignite	144,376	150,565	159,975	r 165,181	e 171,960
United Kingdom: Bituminous and anthracite	221,130	219,291	216,863	209,999	195,523
Yugoslavia:					
Bituminous	1,310	1,418	1,391	1,289	1,268
Lignite	25,910	28,810	31,139	31,733	31,040

See footnotes at end of table.

Table 72.—World production of bituminous coal, anthracite, and lignite by countries[1]—Continued

(Thousand short tons)

Country	1962	1963	1964	1965	1966[p][2]
Africa:					
Algeria: Bituminous and anthracite	58	42	51	50	[e]55
Angola	---	7	---	---	12
Congo, Republic of the (Kinshasa): Bituminous	84	101	110	126	121
Malagasy Republic: Bituminous	---	2	4	2	---
Morocco: Anthracite	408	445	441	462	497
Mozembique: Bituminous	328	312	270	262	299
Nigeria: Bituminous	699	636	771	816	705
Rhodesia, Southern: Bituminous	3,115	3,020	3,355	[r]3,868	[e]3,350
South Africa, Republic of: Bituminous and anthracite (marketable)	45,498	46,798	49,513	53,418	52,847
Swaziland: Anthracite and bituminous	---	---	4	33	74
Tanzania: Bituminous	3	2	1	2	2
United Arab Republic (Egypt): Bituminous	---	---	---	22	[e]22
Zambia: Bituminous	---	---	---	---	126
Asia:					
Afghanistan: Bituminous [5]	123	108	125	161	155
Burma: Bituminous	3	3	11	11	[e]11
China, mainland: Bituminous, anthracite, and lignite [e]	275,000	300,000	320,000	330,000	360,000
India:					
Bituminous	67,649	72,704	[r]68,828	[r]76,611	77,753
Lignite	233	1,101	1,730	2,535	2,831
Indonesia: Bituminous	520	542	492	430	353
Iran: Bituminous [5]	176	213	302	303	[e]331
Japan:					
Bituminous and anthracite	59,965	57,377	56,140	54,602	56,601
Lignite	1,225	[r]1,008	762	632	498
Korea:					
North: Anthracite, bituminous, and lignite	14,550	15,476	[r]15,988	[r]19,621	21,495
South: Anthracite	8,206	9,765	10,606	11,296	12,801
Mongolia, Outer: Lignite and bituminous	948	931	[e]780	1,091	[e]1,102
Pakistan: Bituminous and lignite	1,097	1,370	1,338	[r]1,357	[e]1,323
Philippines: Bituminous	180	173	127	[r]105	86
Taiwan: Bituminous	5,020	5,302	5,542	5,571	5,528
Thailand: Lignite	149	151	115	138	188
Turkey (mined):					
Bituminous	7,156	7,496	[r]7,882	[r]7,734	[e]8,157
Lignite	4,668	[r]5,503	[r]6,509	[r]6,940	[e]6,945
Viet-Nam:					
North: Anthracite	3,828	[r]3,688	[r]3,747	[e]3,900	[e]3,900
South: Anthracite	78	115	85	---	---
Oceania:					
Australia:					
Bituminous	27,406	[r]27,839	[r]30,689	[r]35,204	37,310
Lignite	19,193	20,672	[r]21,819	23,197	24,400
New Zealand:					
Bituminous and anthracite	2,690	2,890	3,047	2,801	2,721
Lignite	166	181	175	176	185
Lignite (total of items shown above) (estimate)	[r]749,267	[r]785,866	[r]820,109	[r]815,696	819,636
Bituminous and anthracite (by subtraction)	[r]2,060,580	[r]2,141,968	[r]2,215,898	[r]2,272,909	2,301,153
World total, all grades (estimate)	[r]2,809,847	[r]2,927,834	[r]3,036,007	[r]3,088,605	3,120,789

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Ecuador produces a negligible amount of coal.

[2] Compiled mostly from data available August 1967.

[3] Includes a preponderant share of low-grade bituminous.

[4] Output from U.S.S.R. in Asia (including Sakhalin) included with U.S.S.R. in Europe.

[5] Year ended March 20 of year following that stated.

Coal—Pennsylvania Anthracite

Table 1.—Salient statistics of the Pennsylvania anthracite industry

	1962	1963	1964	1965	1966
Production:					
Preparation plants short tons	16,015,366	17,415,365	16,335,700	14,023,269	12,139,106
Dredges do	726,666	691,370	704,748	699,857	661,017
Used at collieries for power and heat short tons	151,614	160,649	143,803	142,829	141,141
Total production do	16,893,646	18,267,384	17,184,251	14,865,955	12,941,264
Value thousands	$134,094	$153,503	$148,648	$122,021	$100,663
Average sales realization per short ton on preparation plant shipments (excludes dredge coal):					
Pea and larger	$10.90	$11.65	$12.38	$11.70	$11.11
Buckwheat No. 1 and smaller	$6.14	$6.43	$6.56	$6.48	$6.40
All sizes	$7.99	$8.64	$8.93	$8.51	$8.08
Percentage of total preparation plant shipments (excludes dredge coal):					
Pea and larger	43.1	42.4	40.8	39.0	35.6
Buckwheat No. 1 and smaller	56.9	57.6	59.2	61.0	64.4
Exports [1] short tons	1,801,724	3,357,340	1,575,097	850,630	766,025
Imports [1] do	7,583	[2] 4,625	NA	NA	NA
Consumption (apparent) [3] do	14,300,000	14,100,000	14,400,000	12,900,000	11,400,000
Average number of days worked	204	216	214	204	203
Average number of men working daily	14,010	13,498	13,144	11,132	9,292
Output per man per day short tons	5.92	6.27	6.11	6.55	6.87
Output per man per year do	1,208	1,354	1,308	1,336	1,395
Quantity cut by machines do	277,537	240,427	417,080	329,328	246,658
Quantity mined by stripping do	6,822,207	7,467,842	7,177,188	5,938,982	5,253,408
Quantity loaded by machines underground short tons	3,065,364	3,665,962	3,455,034	3,246,034	2,590,547
Distribution:					
Receipts in New England [4] do	495,390	422,012	331,780	241,638	[5] 149,010
Exports to Canada [1] do	892,488	794,585	636,867	642,657	624,280
Loaded into vessels at Lake Erie [6] short tons	196,440	191,609	216,590	224,460	208,432
Receipts at Duluth-Superior [7] do	26,516	32,615	47,649	11,560	----

NA Not available.

[1] U.S. Department of Commerce, 1962-66 export data does not include shipments to U.S. military forces. See NOTE, tables 2 and 35.

[2] Import data discontinued with August 1963.

[3] Beginning with 1961 exports to the U.S. military forces in West Germany were taken into consideration. See NOTE on summary and export tables.

[4] Commonwealth of Massachusetts, Division on the Necessaries of Life.

[5] Data discontinued with September 1966.

[6] Ore and Coal Exchange, Cleveland, Ohio.

[7] Lake Superior area office, Corps of Engineers, U.S. Army, Duluth, Minnesota.

Table 2.—Summary of monthly developments

(Short tons, except as

	January	February	March	April	May	June
Production (including mine fuel, local sales, and dredge coal)	1,108,000	1,091,000	1,033,000	1,058,000	1,103,000	998,000
Shipments (breakers and washeries only, all sizes):						
By rail [1]	405,534	417,512	441,722	473,458	569,238	591,919
By truck [2]	651,547	662,272	514,052	462,715	454,722	419,342
Carloadings [3]	7,615	7,935	8,651	10,036	11,094	11,231
Distribution:						
Lake Erie loadings [4]	--------	--------	--------	33,554	16,070	23,745
Lake Ontario loadings [4]	--------	--------	--------	--------	--------	--------
Receipts at Duluth-Superior [5]	--------	--------	--------	--------	--------	--------
Upper Lake dock trade: [6]						
Receipts:						
Lake Superior	--------	--------	--------	--------	--------	--------
Lake Michigan	550	122	1,395	1,583	433	600
Deliveries (reloadings):						
Lake Superior	--------	--------	--------	--------	--------	--------
Lake Michigan	1,673	1,112	722	504	773	729
New England receipts:						
By rail [7]	13,019	11,442	12,656	10,838	13,440	25,297
Exports [8]	56,082	84,190	49,439	49,872	61,765	100,875
Industrial consumption and stocks by:						
Electric utilities: [9]						
Consumption	170,846	177,046	175,601	185,064	175,547	187,223
Stocks	1,008,868	911,633	884,744	888,582	907,917	936,250
Coke plants:						
Used for carbonizing	44,773	40,534	45,848	42,775	42,417	44,670
Stocks	121,480	94,968	79,168	78,792	82,169	84,702
Stocks on Upper Lake docks: [6]						
Lake Superior	--------	--------	--------	--------	--------	--------
Lake Michigan	6,575	5,585	6,106	7,129	6,789	6,660
Stocks in retail dealer yards: [10]						
Chestnut and larger	212,000	176,000	155,000	160,000	182,000	222,000
Pea	30,000	26,000	21,000	22,000	26,000	31,000
Buckwheat No. 1 and rice	169,000	135,000	115,000	101,000	106,000	130,000
Total	411,000	337,000	291,000	283,000	314,000	383,000
Retail dealer deliveries: [10]						
Chestnut and larger	253,000	227,000	143,000	102,000	71,000	66,000
Pea	49,000	44,000	33,000	26,000	16,000	11,000
Buckwheat No. 1 and rice	88,000	90,000	74,000	54,000	40,000	42,000
Total	390,000	361,000	250,000	182,000	127,000	119,000
Wholesale price indexes (1957-59=100): [11]						
F.o.b. mines:						
Chestnut	94.6	94.6	94.6	83.6	83.6	83.6
Buckwheat No. 1	93.0	93.0	93.0	86.4	86.4	86.4

NA Not available.

[1] Furnished by the initial carriers.

[2] Pennsylvania Department of Mines and Mineral Industries.

[3] Association of American Railroads.

[4] Ore and Coal Exchange, Cleveland, Ohio.

[5] Data obtained from Skillings' Mining Review.

in the Pennsylvania anthracite industry in 1966
otherwise indicated)

July	August	September	October	November	December	Year 1966	Change from 1965 (percent)	Year 1965
745,000	1,191,000	1,145,000	1,221,000	1,145,000	1,103,000	12,941,000	−12.9	14,866,000
440,408	627,111	583,964	611,506	546,984	456,858	6,166,214	−13.7	7,149,125
306,243	416,425	435,851	532,500	536,971	627,952	6,020,592	−11.6	6,811,607
8,860	12,743	11,146	12,075	10,997	8,751	121,134	−11.5	136,904
26,519	11,719	18,514	46,186	28,672	3,453	208,432	−7.1	224,460
--------	1,097	--------	--------	--------	--------	1,097	+21.1	906
--------	--------	--------	--------	--------	--------	--------	-----	11,560
--------	56	--------	--------	--------	--------	56	-----	--------
638	1,353	1,328	452	643	2	9,099	−42.5	15,827
--------	30	7	2	2	--------	41	−96.9	1,325
654	917	1,377	1,293	1,075	1,005	11,834	−11.2	13,334
18,770	19,728	23,820	NA	NA	NA	NA	NA	241,638
51,836	53,056	86,878	90,619	44,167	37,246	766,025	−9.9	850,630
194,485	192,949	170,580	177,821	186,430	198,482	2,192,074	+1.6	2,158,207
949,415	975,930	1,015,281	1,068,897	1,054,000	997,789	997,789	−8.3	1,087,682
38,823	39,842	40,703	44,331	44,618	45,167	514,501	+1.4	507,207
71,608	72,995	76,915	107,583	128,451	134,581	134,581	+.4	133,999
--------	26	19	17	15	15	15	-----	--------
6,643	7,079	7,030	6,189	5,757	4,754	4,754	−38.2	7,698
230,000	249,000	311,000	319,000	294,000	257,000	257,000	−3.7	267,000
32,000	34,000	35,000	35,000	31,000	26,000	26,000	−23.5	34,000
129,000	143,000	150,000	153,000	151,000	129,000	129,000	−36.8	204,000
391,000	426,000	496,000	507,000	476,000	412,000	412,000	−18.4	505,000
59,000	115,000	152,000	184,000	175,000	217,000	1,764,000	−3.6	1,829,000
11,000	19,000	23,000	27,000	29,000	34,000	322,000	−13.9	374,000
38,000	42,000	41,000	40,000	46,000	62,000	657,000	−28.8	923,000
108,000	176,000	216,000	251,000	250,000	313,000	2,743,000	−12.3	3,126,000
83.6	86.0	89.4	90.0	93.4	93.4	89.2	−1.3	90.4
86.4	87.7	91.0	91.4	93.7	93.7	90.2	−.7	90.8

[6] Data furnished by Lake dock operators.
[7] Commonwealth of Massachusetts, Division on the Necessaries of Life. These data discontinued with September 1966.
[8] U.S. Department of Commerce. Does not include shipments to the U.S. military forces.
[9] Federal Power Commission.
[10] Estimated from reports submitted by a selected list of retail dealers located outside the producing region.
[11] Bureau of Labor Statistics. Based on data obtained from authorized trade publications.

NOTE.—According to the Association of American Railroads, 830,216 short tons of anthracite was exported to Europe during 1966 compared with 1,246,261 tons for 1965. Of this total 764,974 tons was consigned to West Germany and the Netherlands, including exports to U.S. military forces. This compares with 1,133,409 tons for 1965.

Table 3.—Commercial production of Pennsylvania anthracite in 1966, by regions and sizes

Size	From preparation plants								
	Lehigh region			Schuylkill region			Wyoming region [1]		
	Rail	Truck	Total	Rail	Truck	Total	Rail	Truck	Total
Short tons:									
Lump [2] and broken	--------	--------	--------	--------	--------	--------	546	58	604
Egg	75,090	4,916	80,006	48,179	2,021	50,200	111,667	2,904	114,571
Stove	268,645	54,403	323,048	196,802	349,974	546,776	308,141	128,162	436,303
Chestnut	149,406	212,189	361,595	203,769	503,675	707,444	225,077	348,091	573,168
Pea	78,555	135,877	214,432	161,335	327,164	488,499	67,978	353,132	421,110
Total pea and larger	571,696	407,385	979,081	610,085	1,182,834	1,792,919	713,409	832,347	1,545,756
Buckwheat No. 1	145,340	184,061	329,401	261,441	448,480	709,921	143,989	356,711	500,700
Buckwheat No. 2 (rice)	64,044	223,493	287,537	176,630	422,350	598,980	66,081	256,927	323,008
Buckwheat No. 3 (barley)	95,590	170,531	266,121	230,742	551,103	781,845	213,497	147,097	360,594
Buckwheat No. 4	121,513	59,257	180,770	253,180	162,172	415,352	78,622	77,865	156,487
Buckwheat No. 5	380,062	51,965	432,027	627,980	205,027	833,007	102,293	42,026	144,319
Other [3]	178,007	263,126	441,133	324,791	427,836	752,627	3,535	303,986	307,521
Total buckwheat No. 1 and smaller	984,556	952,433	1,936,989	1,874,764	2,216,968	4,091,732	608,017	1,184,612	1,792,629
Grand total	1,556,252	1,359,818	2,916,070	2,484,849	3,399,802	5,884,651	1,321,426	2,016,959	3,338,385
Value:									
Lump [2] and broken	--------	--------	--------	--------	--------	--------	$6,825	$725	$7,550
Egg	$937,147	$60,095	$997,242	$599,147	$24,174	$623,321	1,396,973	36,582	1,433,555
Stove	3,229,101	658,730	3,887,831	2,236,282	3,943,945	6,180,227	3,753,186	1,556,231	5,309,417
Chestnut	1,757,144	2,562,596	4,319,740	2,244,023	5,562,624	7,806,647	2,697,610	4,204,810	6,902,420
Pea	666,821	1,262,871	1,929,692	1,339,886	2,892,552	4,232,438	668,392	3,684,040	4,352,432
Total pea and larger	6,590,213	4,544,292	11,134,505	6,419,338	12,423,295	18,842,633	8,522,986	9,482,388	18,005,374
Buckwheat No. 1	1,220,158	1,564,836	2,784,994	2,267,768	3,891,207	6,158,975	1,223,002	3,286,546	4,509,548
Buckwheat No. 2 (rice)	556,409	2,124,303	2,680,712	1,420,598	3,537,640	4,958,238	594,567	2,370,149	2,964,716
Buckwheat No. 3 (barley)	716,021	1,288,096	2,004,117	1,627,408	3,996,362	5,623,770	1,553,990	1,077,080	2,631,070
Buckwheat No. 4	672,867	337,135	1,010,002	1,388,857	820,282	2,209,139	513,868	449,617	963,485
Buckwheat No. 5	2,063,910	260,573	2,324,483	2,962,533	878,543	3,841,076	544,483	238,757	783,240
Other [3]	534,021	786,711	1,320,732	1,151,745	1,534,697	2,686,442	10,605	616,789	627,394
Total buckwheat No. 1 and smaller	5,763,386	6,361,654	12,125,040	10,818,909	14,658,731	25,477,640	4,440,515	8,038,938	12,479,453
Grand total	12,353,599	10,905,946	23,259,545	17,238,247	27,082,026	44,320,273	12,963,501	17,521,326	30,484,827

Average value per ton:									
Lump [2] and broken	--------	--------	--------	--------	--------	--------	$12.50	$12.50	$12.50
Egg	$12.48	$12.22	$12.46	$12.44	$11.96	$12.42	12.51	12.60	12.51
Stove	12.02	12.11	12.03	11.36	11.27	11.30	12.18	12.14	12.17
Chestnut	11.76	12.08	11.95	11.01	11.04	11.04	11.99	12.08	12.04
Pea	8.49	9.29	9.00	8.30	8.84	8.66	9.83	10.43	10.34
Total pea and larger	11.53	11.15	11.37	10.52	10.50	10.51	11.95	11.39	11.65
Buckwheat No. 1	8.40	8.50	8.45	8.67	8.68	8.68	8.49	9.21	9.01
Buckwheat No. 2 (rice)	8.69	9.51	9.32	8.04	8.38	8.28	9.00	9.22	9.18
Buckwheat No. 3 (barley)	7.49	7.55	7.53	7.05	7.25	7.19	7.28	7.32	7.30
Buckwheat No. 4	5.54	5.69	5.59	5.49	5.06	5.32	6.54	5.77	6.16
Buckwheat No. 5	5.43	5.01	5.38	4.72	4.29	4.61	5.32	5.68	5.48
Other [3]	3.00	2.99	2.99	3.55	3.59	3.57	3.00	2.03	2.04
Total buckwheat No. 1 and smaller	5.85	6.68	6.26	5.77	6.61	6.23	7.30	6.79	6.96
Grand total	7.94	8.02	7.98	6.94	7.97	7.53	9.81	8.69	9.18

See footnotes at end of table.

Table 3.—Commercial production of Pennsylvania anthracite in 1966, by regions and sizes—Continued

Size	Total preparation plants			From river dredging			Total		
	Rail	Truck	Total	Rail	Truck	Total	Rail	Truck	Total
Short tons:									
Lump [2] and broken	546	58	604	--------	--------	--------	546	58	604
Egg	234,936	9,841	244,777	--------	--------	--------	234,936	9,841	244,777
Stove	773,588	532,539	1,306,127	--------	--------	--------	773,588	532,539	1,306,127
Chestnut	578,252	1,063,955	1,642,207	--------	--------	--------	578,252	1,063,955	1,642,207
Pea	307,868	816,173	1,124,041	--------	--------	--------	307,868	816,173	1,124,041
Total pea and larger	1,895,190	2,422,566	4,317,756	--------	--------	--------	1,895,190	2,422,566	4,317,756
Buckwheat No. 1	550,770	989,252	1,540,022	--------	43	43	550,770	989,295	1,540,065
Buckwheat No. 2 (rice)	306,755	902,770	1,209,525	--------	429	429	306,755	903,199	1,209,954
Buckwheat No. 3 (barley)	539,829	868,731	1,408,560	--------	359	359	539,829	869,090	1,408,919
Buckwheat No. 4	453,315	299,294	752,609	--------	29,959	29,959	453,315	329,253	782,568
Buckwheat No. 5	1,110,335	299,018	1,409,353	13,011	69,080	82,091	1,123,346	368,098	1,491,444
Other [3]	506,333	994,948	1,501,281	548,036	100	548,136	1,054,369	995,048	2,049,417
Total buckwheat No. 1 and smaller	3,467,337	4,354,013	7,821,350	561,047	99,970	661,017	4,028,384	4,453,983	8,482,367
Grand total	5,362,527	6,776,579	12,139,106	561,047	99,970	661,017	5,923,574	6,876,549	12,800,123
Value:									
Lump [2] and broken	$6,825	$725	$7,550	--------	--------	--------	$6,825	$725	$7,550
Egg	2,933,267	120,851	3,054,118	--------	--------	--------	2,933,267	120,851	3,054,118
Stove	9,218,569	6,158,906	15,377,475	--------	--------	--------	9,218,569	6,158,906	15,377,475
Chestnut	6,698,777	12,330,030	19,028,807	--------	--------	--------	6,698,777	12,330,030	19,028,807
Pea	2,675,099	7,839,463	10,514,562	--------	--------	--------	2,675,099	7,839,463	10,514,562
Total pea and larger	21,532,537	26,449,975	47,982,512	--------	--------	--------	21,532,537	26,449,975	47,982,512
Buckwheat No. 1	4,710,928	8,742,589	13,453,517	--------	$282	$282	4,710,928	8,742,871	13,453,799
Buckwheat No. 2 (rice)	2,571,574	8,032,092	10,603,666	--------	2,637	2,637	2,571,574	8,034,729	10,606,303
Buckwheat No. 3 (barley)	3,897,419	6,361,538	10,258,957	--------	2,513	2,513	3,897,419	6,364,051	10,261,470
Buckwheat No. 4	2,575,592	1,607,034	4,182,626	--------	118,014	118,014	2,575,592	1,725,048	4,300,640
Buckwheat No. 5	5,570,926	1,377,873	6,948,799	$39,033	236,518	275,551	5,609,959	1,614,391	7,224,350
Other [3]	1,696,371	2,938,197	4,634,568	1,885,413	450	1,885,863	3,581,784	2,938,647	6,520,431
Total buckwheat No. 1 and smaller	21,022,810	29,059,323	50,082,133	1,924,446	360,414	2,284,860	22,947,256	29,419,737	52,366,993
Grand total	42,555,347	55,509,298	98,064,645	1,924,446	360,414	2,284,860	44,479,793	55,869,712	100,349,505

Average value per ton:									
Lump [2] and broken	$12.50	$12.50	$12.50	--------	--------	--------	$12.50	$12.50	$12.50
Egg	12.49	12.28	12.48	--------	--------	--------	12.49	12.28	12.48
Stove	11.92	11.57	11.77	--------	--------	--------	11.92	11.57	11.77
Chestnut	11.58	11.59	11.59	--------	--------	--------	11.58	11.59	11.59
Pea	8.69	9.61	9.35	--------	--------	--------	8.69	9.61	9.35
Total pea and larger	11.36	10.92	11.11	--------	--------	--------	11.36	10.92	11.11
Buckwheat No. 1	8.55	8.84	8.74	--------	$6.56	$6.56	8.55	8.84	8.74
Buckwheat No. 2 (rice)	8.38	8.90	8.77	--------	6.15	6.15	8.38	8.90	8.77
Buckwheat No. 3 (barley)	7.22	7.32	7.28	--------	7.00	7.00	7.22	7.32	7.28
Buckwheat No. 4	5.68	5.37	5.56	--------	3.94	3.94	5.68	5.24	5.50
Buckwheat No. 5	5.02	4.61	4.93	$3.00	3.42	3.36	4.99	4.39	4.84
Other [3]	3.35	2.95	3.09	3.44	4.50	3.44	3.40	2.95	3.18
Total buckwheat No. 1 and smaller	6.06	6.67	6.40	3.43	3.61	3.46	5.70	6.61	6.17
Grand total	7.94	8.19	8.08	3.43	3.61	3.46	7.51	8.12	7.84

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[1] Included Sullivan County.

[2] Quantity of lump included is significant.

[3] Includes various mixtures of buckwheat Nos. 2 to 5 and coal of relatively low dollar value.

Table 4.—Sizes of Pennsylvania anthracite (excluding dredge coal) prepared at plants in 1966, by regions

(Percent)

Size	Lehigh region			Schuylkill region		
	Shipped by rail	Shipped by truck	Total	Shipped by rail	Shipped by truck	Total
Lump [1] and broken	---	---	---	---	---	---
Egg	4.8	0.4	2.7	2.0	0.1	0.9
Stove	17.3	4.0	11.1	7.9	10.3	9.3
Chestnut	9.6	15.6	12.4	8.2	14.8	12.0
Pea	5.0	10.0	7.4	6.5	9.6	8.3
Total pea and larger	36.7	30.0	33.6	24.6	34.8	30.5
Buckwheat No. 1	9.4	13.5	11.3	10.5	13.2	12.1
Buckwheat No. 2 (rice)	4.1	16.4	9.9	7.1	12.4	10.2
Buckwheat No. 3 (barley)	6.2	12.5	9.1	9.3	16.2	13.3
Buckwheat No. 4	7.8	4.4	6.2	10.2	4.8	7.0
Buckwheat No. 5	24.4	3.8	14.8	25.3	6.0	14.1
Other [2]	11.4	19.4	15.1	13.0	12.6	12.8
Total buckwheat No. 1 and smaller	63.3	70.0	66.4	75.4	65.2	69.5
	Wyoming region [3]			Total		
Lump [1] and broken	(4)	(4)	(4)	(4)	(4)	(4)
Egg	8.5	.1	3.4	4.4	.1	2.0
Stove	23.3	6.4	13.1	14.4	7.9	10.8
Chestnut	17.0	17.3	17.2	10.8	15.7	13.5
Pea	5.2	17.5	12.6	5.7	12.0	9.3
Total pea and larger	54.0	41.3	46.3	35.3	35.7	35.6
Buckwheat No. 1	10.9	17.7	15.0	10.3	14.6	12.7
Buckwheat No. 2 (rice)	5.0	12.7	9.7	5.7	13.4	9.9
Buckwheat No. 3 (barley)	16.2	7.3	10.8	10.1	12.8	11.6
Buckwheat No. 4	5.9	3.8	4.7	8.5	4.4	6.2
Buckwheat No. 5	7.7	2.1	4.3	20.7	4.4	11.6
Other [2]	.3	15.1	9.2	9.4	14.7	12.4
Total buckwheat No. 1 and smaller	46.0	58.7	53.7	64.7	64.3	64.4

[1] Quantity of lump included is insignificant.
[2] Includes various mixtures of buckwheat Nos. 2 to 5 and coal of relatively low dollar value.
[3] Includes Sullivan County.
[4] Less than 0.05 percent.

Table 5.—Sizes of Pennsylvania anthracite (excluding dredge coal) prepared at plants, by regions

(Percent)

Size	Lehigh region					Schuylkill region				
	1962	1963	1964	1965	1966	1962	1963	1964	1965	1966
Lump [1] and broken	---	---	---	---	---	(2)	(2)	(2)	---	---
Egg	3.1	2.3	3.3	3.9	2.7	0.9	1.1	0.9	1.0	0.9
Stove	10.7	9.7	11.8	11.8	11.1	12.2	11.9	11.3	10.3	9.3
Chestnut	12.5	11.7	14.1	14.9	12.4	15.4	15.0	14.2	12.0	12.0
Pea	10.8	10.1	10.3	9.4	7.4	10.7	10.3	9.1	8.4	8.3
Total pea and larger	37.1	33.8	39.5	40.0	33.6	39.2	38.3	35.5	31.7	30.5
Buckwheat No. 1	11.0	9.3	10.4	10.5	11.3	12.4	12.3	11.3	11.9	12.1
Buckwheat No. 2 (rice)	8.6	8.7	10.5	9.5	9.9	9.5	9.7	9.3	10.1	10.2
Buckwheat No. 3 (barley)	8.8	9.8	11.0	10.2	9.1	11.1	11.2	11.7	13.5	13.3
Buckwheat No. 4	6.8	7.8	6.8	5.5	6.2	7.2	6.8	6.6	6.5	7.0
Buckwheat No. 5	10.6	16.8	12.1	12.5	14.8	12.7	12.8	13.3	14.7	14.1
Other [3]	17.1	13.8	9.7	11.8	15.1	7.9	8.9	12.3	11.6	12.8
Total buckwheat No. 1 and smaller	62.9	66.2	60.5	60.0	66.4	60.8	61.7	64.5	68.3	69.5
	Wyoming region [4]					Total				
Lump [1] and broken	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Egg	4.4	4.9	4.6	4.7	3.4	2.5	2.6	2.5	2.8	2.0
Stove	15.8	16.7	15.2	15.0	13.1	13.2	13.0	12.6	12.1	10.8
Chestnut	17.7	18.5	17.3	16.6	17.2	15.6	15.4	15.2	14.1	13.5
Pea	13.8	13.9	12.9	12.9	12.6	11.8	11.4	10.5	10.0	9.3
Total pea and larger	51.7	54.0	50.0	49.2	46.3	43.1	42.4	40.8	39.0	35.6
Buckwheat No. 1	15.1	15.1	13.9	13.8	15.0	13.1	12.6	11.9	12.2	12.7
Buckwheat No. 2 (rice)	9.1	9.3	9.2	9.2	9.7	9.2	9.3	9.5	9.7	9.9
Buckwheat No. 3 (barley)	10.5	10.9	10.3	10.7	10.8	10.5	10.8	11.1	11.9	11.6
Buckwheat No. 4	2.3	2.4	2.2	3.8	4.7	5.4	5.6	5.3	5.4	6.2
Buckwheat No. 5	4.8	4.0	3.1	2.9	4.3	9.5	10.8	9.9	10.5	11.6
Other [3]	6.5	4.3	11.3	10.4	9.2	9.2	8.5	11.5	11.3	12.4
Total buckwheat No. 1 and smaller	48.3	46.0	50.0	50.8	53.7	56.9	57.6	59.2	61.0	64.4

[1] Quantity of lump included is insignificant.
[2] Less than 0.05 percent.
[3] Includes various mixtures of buckwheat Nos. 2 to 5 and coal of relatively low dollar value.
[4] Includes Sullivan County.

Table 6.—Production of Pennsylvania anthracite in 1966, by regions

Region	Production							
	Rail shipments		Truck shipments		Colliery fuel		Total	
	Short tons	Value [1]	Short tons	Value [1]	Short tons	Value	Short tons	Value [1]
Lehigh:								
Preparation plants	1,556,252	$12,353,599	1,359,818	$10,905,946	7,825	$67,407	2,923,895	$23,326,952
Schuylkill:								
Preparation plants	2,484,849	17,238,247	3,399,802	27,082,026	6,395	52,952	5,891,046	44,373,225
Dredges	561,047	1,924,446	99,970	360,414	600	1,800	661,617	2,286,660
Total Schuylkill	3,045,896	19,162,693	3,499,772	27,442,440	6,995	54,752	6,552,663	46,659,885
Wyoming:								
Preparation plants [2]	1,321,426	12,963,501	2,016,959	17,521,326	126,321	191,415	3,464,706	30,676,242
Total:								
Preparation plants	5,362,527	42,555,347	6,776,579	55,509,298	140,541	311,774	12,279,647	98,376,419
Dredges	561,047	1,924,446	99,970	360,414	600	1,800	661,617	2,286,660
Grand total	5,923,574	44,479,793	6,876,549	55,869,712	141,141	313,574	12,941,264	100,663,079

[1] Value given for shipments is that at which coal left possession of producing company; does not include selling expenses.
[2] Includes Sullivan County.

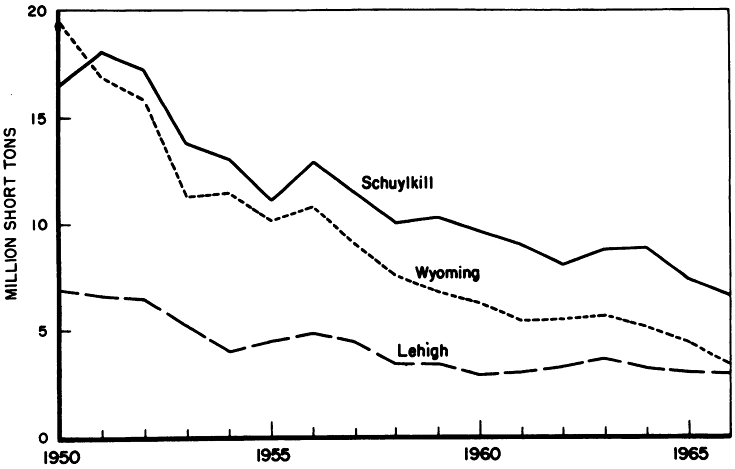

Figure 1.—Pennsylvania anthracite shipped from the Lehigh, Schuylkill, and Wyoming regions.

Table 7.—Pennsylvania anthracite produced, by fields

(Short tons)

Field	1962	1963	1964	1965	1966
Eastern Middle: Breakers and washeries	2,257,038	2,657,499	2,188,777	2,026,884	2,009,265
Western Middle:					
Breakers and washeries	3,723,273	4,270,454	4,492,491	3,427,959	3,024,889
Dredges	41,105	36,095	33,667	36,231	26,169
Total	3,764,378	4,306,549	4,526,158	3,464,190	3,051,058
Southern:					
Breakers and washeries	4,515,339	4,857,977	4,591,944	4,159,875	3,780,787
Dredges	685,946	655,635	671,581	664,226	635,448
Total	5,201,285	5,513,612	5,263,525	4,824,101	4,416,235
Northern: Breakers and washeries [1]	5,670,945	5,789,724	5,205,791	4,550,780	3,464,706
Total:					
Breakers and washeries	16,166,595	17,575,654	16,479,003	14,165,498	12,279,647
Dredges	727,051	691,730	705,248	700,457	661,617
Grand total	16,893,646	18,267,384	17,184,251	14,865,955	12,941,264

[1] Includes Sullivan County.

Table 8.—Production of Pennsylvania anthracite in 1966, by counties

County	Production							
	Rail shipments		Truck shipments		Colliery fuel		Total	
	Short tons	Value[1]	Short tons	Value[1]	Short tons	Value	Short tons	Value[1]
Berks, Lancaster, and Snyder	561,047	$1,924,446	62,953	$216,350	-------	-------	624,000	$2,140,796
Carbon	342,495	2,960,884	118,239	520,065	-------	-------	460,734	3,480,949
Columbia	303,112	2,820,439	109,483	756,727	-------	-------	412,595	3,577,166
Dauphin	150,783	530,450	69,738	360,823	150	$1,200	220,671	892,473
Lackawanna	284,897	2,706,415	299,358	2,943,789	1,320	8.625	585,575	5,658,829
Lebanon	3,008	17,403	36,228	164,697	-------	-------	39,236	182,100
Luzerne	2,076,453	18,149,695	2,419,110	20,095,308	131,817	242,128	4,627,380	38,487,131
Northumberland	514,276	2,925,230	914,185	7,203,735	1,020	6,050	1,429,481	10,135,015
Schuylkill	1,687,257	12,443,069	2,824,904	23,485,840	6,834	55,571	4,518,995	35,984,480
Sullivan	---------	----------	20,938	114,975	-------	-------	20,938	114,975
Susquehanna	246	1,762	1,413	7,403	-------	-------	1,659	9,165
Total	5,923,574	44,479,793	6,876,549	55,869,712	141,141	313,574	12,941,264	100,663,079

[1] Value given for shipments is that at which coal left possession of producing company; does not include selling expenses.

Table 9.—Pennsylvania anthracite produced in 1966, classified as fresh-mined, culm-bank, and river coal, by fields

(Short tons)

Field	Fresh-mined coal				From culm banks	From river dredging	Total
	Underground mines			Strip pits			
	Mechanically loaded	Hand loaded	Total				
Eastern Middle	25,499	8,258	33,757	1,192,861	782,647	---------	2,009,265
Western Middle	170,251	517,382	687,633	1,396,867	940,389	26,169	3,051,058
Southern	415,693	941,310	1,357,003	1,786,557	637,227	635,448	4,416,235
Northern[1]	1,979,104	30,647	2,009,751	877,123	577,832	---------	3,464,706
Total	2,590,547	1,497,597	4,088,144	5,253,408	2,938,095	661,617	12,941,264

[1] Includes Sullivan County.

Table 10.—Pennsylvania anthracite produced in 1966, classified as fresh-mined, culm-bank, and river coal, by regions

(Short tons)

Region	Fresh-mined coal				From culm banks	From river dredging	Total
	Underground mines			Strip pits			
	Mechanically loaded	Hand loaded	Total				
Lehigh	25,499	31,067	56,566	1,896,734	970,595	---------	2,923,895
Schuylkill	585,944	1,435,883	2,021,827	2,479,551	1,389,668	661,617	6,552,663
Wyoming[1]	1,979,104	30,647	2,009,751	877,123	577,832	---------	3,464,706
Total	2,590,547	1,497,597	4,088,144	5,253,408	2,938,095	661,617	12,941,264

[1] Includes Sullivan County.

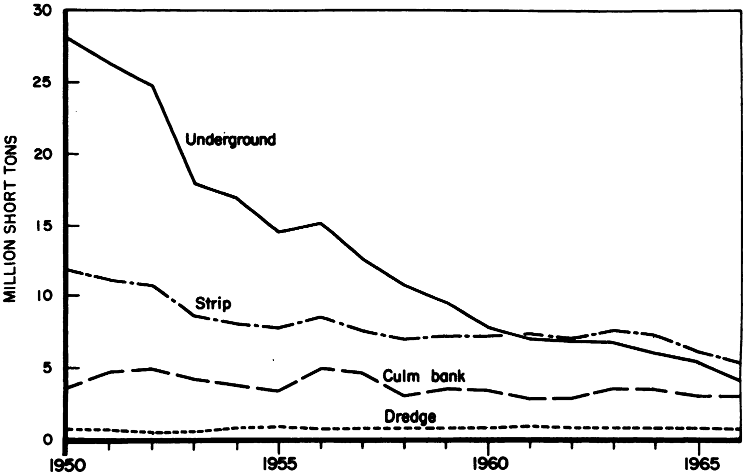

Figure 2.—Production of Pennsylvania anthracite, by sources.

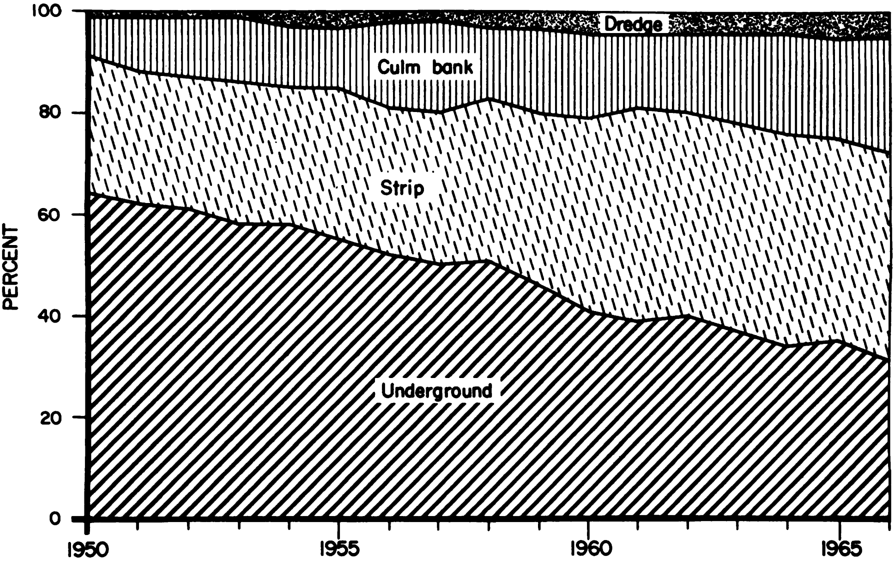

Figure 3.—Production of Pennsylvania anthracite, by sources, in percent total.

Table 11.—Production of Pennsylvania anthracite from strip pits

	Mined by stripping (short tons)	Percent of fresh-mined total	Number of men employed	Average number of days worked
1960	7,112,288	48.0	3,470	195
1961	7,246,646	51.6	3,194	207
1962	6,822,207	50.6	3,008	206
1963	7,467,842	52.7	3,025	224
1964	7,177,188	54.9	3,075	217
1965	5,938,982	52.9	2,349	217
1966:				
Lehigh region	1,896,734	97.1	692	253
Schuylkill region	2,479,551	55.1	906	209
Wyoming region [1]	877,123	30.4	487	216
Total	5,253,408	56.2	2,085	225

[1] Includes Sullivan County.

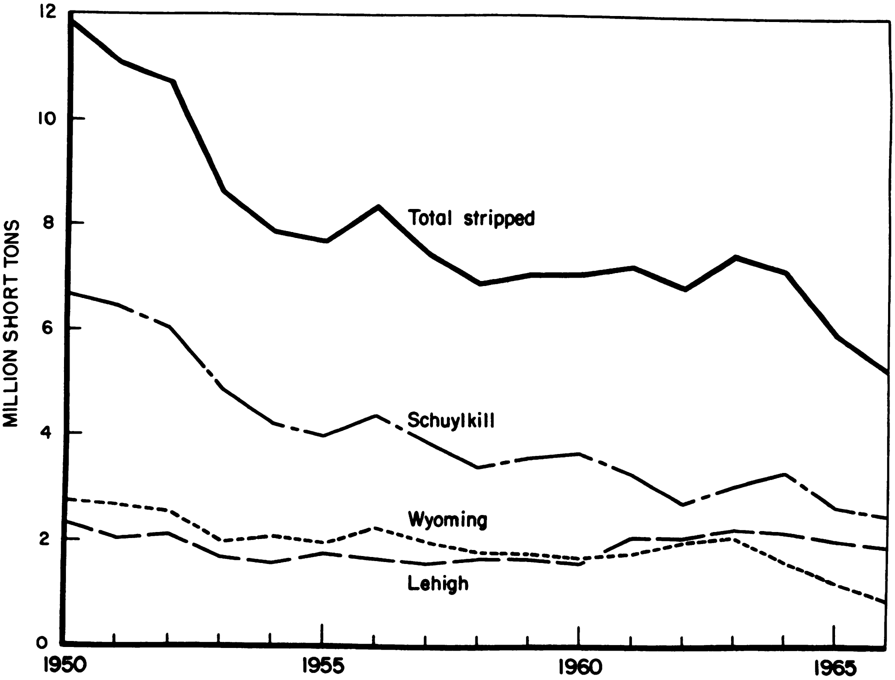

Figure 4.—Pennsylvania anthracite mined from strip pits, by regions.

Table 12.—Power shovels and draglines used in recovering coal from culm banks and in stripping Pennsylvania anthracite, by type of power

Type of power	1964			1965			1966		
	Number of power shovels	Number of draglines	Total	Number of power shovels	Number of draglines	Total	Number of power shovels	Number of draglines	Total
Gasoline	28	8	36	29	6	35	20	1	21
Electric	27	68	95	32	59	91	28	53	81
Diesel	97	184	281	84	175	259	72	149	221
Diesel-electric	3	4	7	4	1	5	3	2	5
Total	155	264	419	149	241	390	123	205	328

Table 13.—Production of Pennsylvania anthracite from culm banks, by regions

(Short tons)

Year	Lehigh region	Schuylkill region	Wyoming region	Sullivan County	Total
1960	825,825	1,563,746	907,441	-----	3,297,012
1961	656,528	1,377,204	635,627	-----	2,669,359
1962	974,650	949,710	747,106	-----	2,671,466
1963	1,297,590	1,389,314	706,162	-----	3,393,066
1964	935,726	1,580,290	896,973	-----	3,412,989
1965	833,088	1,380,465	715,974	-----	2,929,527
1966	970,595	1,389,668	577,832	-----	2,938,095

Table 14.—Pennsylvania anthracite produced by dredges in 1966, by rivers, including tributaries

River	Production (short tons)	Value	
		Total	Average
Schuylkill	56,895	$179,714	$3.16
Susquehanna	604,722	2,106,946	3.48
Total	661,617	2,286,660	3.46

Table 15.—Pennsylvania anthracite produced by dredges, by rivers, including tributaries

Year	Lehigh River (short tons)	Schuylkill River (short tons)	Susquehanna River (short tons)	Total (short tons)	Total value	Average value (per ton)
1960	22,700	23,624	665,839	712,163	2,257,367	3.17
1961	2,975	122,880	619,993	745,848	2,355,314	3.16
1962	-----	98,076	628,975	727,051	2,475,987	3.41
1963	-----	83,768	607,962	691,730	2,469,101	3.57
1964	-----	97,957	607,291	705,248	2,359,193	3.35
1965	-----	86,106	614,351	700,457	2,336,674	3.34
1966	-----	56,895	604,722	661,617	2,286,660	3.46

Table 16.—Estimated production of Pennsylvania anthracite, by weeks, in 1966 [1]

Week ended—	Thousand short tons	Week ended—	Thousand short tons	Week ended—	Thousand short tons
Jan. 8	278	May 14	277	Sept. 17	238
15	301	21	276	24	275
22	262	28	256	Oct. 1	291
29	248	June 4	183	8	290
Feb. 5	175	11	252	15	309
12	335	18	255	22	279
19	269	25	274	29	280
26	265	July 2	100	Nov. 5	302
Mar. 5	238	9	65	12	293
12	214	16	212	19	275
19	246	23	216	26	191
26	215	30	240	Dec. 3	308
Apr. 2	209	Aug. 6	264	10	287
9	250	13	257	17	252
16	252	20	270	24	233
23	277	27	242	31	170
30	256	Sept. 3	291		
May 7	240	10	208	Total	12,941

[1] Estimated from weekly carloadings as reported by the Association of American Railroads and other factors; adjusted to annual production from Bureau of Mines canvass.

Table 17.—Estimated monthly production of Pennsylvania anthracite [1]

(Thousand short tons)

Month	1964	1965	1966
January	1,668	1,215	1,108
February	1,520	1,006	1,091
March	1,211	1,256	1,033
April	1,454	1,127	1,058
May	1,636	1,264	1,103
June	1,816	1,565	998
July	1,182	1,209	745
August	1,306	1,244	1,191
September	1,300	1,313	1,145
October	1,337	1,221	1,221
November	1,340	1,208	1,145
December	1,414	1,238	1,103
Total	17,184	14,866	12,941

[1] Production is estimated from weekly carloadings, as reported by the Association of American Railroads, and includes mine fuel, coal sold locally, and dredge coal.

Table 18.—Pennsylvania anthracite loaded mechanically underground, by fields

(Short tons)

Field	Scraper loaders [1]		Pit-car loaders		Hand-loaded face conveyors, all types [2]		Total mechanically loaded	
	1965	1966	1965	1966	1965	1966	1965	1966
Northern	1,113,776	916,016	41,619	22,529	1,392,018	1,040,559	2,547,413	1,979,104
Eastern Middle	13,419	7,078	384	131	29,113	18,290	42,916	25,499
Western Middle	34,558	19,211	-----	-----	221,986	151,040	256,544	170,251
Southern	138,079	174,052	6,000	7,060	255,082	234,581	399,161	415,693
Total	1,299,832	1,116,357	48,003	29,720	1,898,199	1,444,470	3,246,034	2,590,547

[1] Includes mobile loaders.
[2] Shaker chutes, including those equipped with duckbills.

Table 19.—Pennsylvania anthracite loaded mechanically underground

(Short tons)

Year	Scraper loaders		Mobile loaders		Conveyors [1] and pit-car loaders		Total loaded mechanically	
	Number of units	Short tons loaded	Number of units	Short tons loaded	Number of units	Short tons loaded	Number of units	Short tons loaded
1962	128	541,241	34	296,259	536	2,227,864	698	3,065,364
1963	147	862,252	30	304,916	512	2,498,794	689	3,665,962
1964	139	750,293	31	492,556	495	2,212,185	665	3,455,034
1965	155	906,897	25	392,935	403	1,946,202	583	3,246,034
1966	151	787,897	30	328,460	383	1,474,190	564	2,590,547

[1] Includes duckbills and other self-loading conveyors.

Table 20.—Trends in mechanical loading [1], hand loading, and stripping of Pennsylvania anthracite

Year	Fresh-mined coal							
	Underground					Strip pits		Total
	Mechanical loading (short tons)	Percent of total, underground	Hand loading (short tons)	Percent of total, underground	Total (short tons)	Short tons	Percent of total, fresh mined	
1960	4,044,392	52.6	3,651,586	47.4	7,695,978	7,112,288	48.0	14,808,266
1961	3,377,778	49.8	3,406,808	50.2	6,784,586	7,246,646	51.6	14,031,232
1962	3,065,364	45.9	3,607,558	54.1	6,672,922	6,822,207	50.6	13,495,129
1963	3,665,962	54.6	3,048,784	45.4	6,714,746	7,467,842	52.7	14,182,588
1964	3,455,034	58.7	2,433,792	41.3	5,888,826	7,177,188	54.9	13,066,014
1965	3,246,034	61.3	2,050,955	38.7	5,296,989	5,938,982	52.9	11,235,971
1966	2,590,547	63.4	1,497,597	36.6	4,088,144	5,253,408	56.2	9,341,552

[1] Mechanical loading includes coal handled on pit-car loaders and hand-loaded face conveyors.

Table 21.—Standard anthracite specifications approved and adopted by the Anthracite Committee, effective July 28, 1947

Size	Round test mesh (inches)	Percent					
		Oversize, maximum	Undersize		Maximum impurities [1]		
			Maximum	Minimum	Slate	Bone	Ash [2]
Broken	Through 4⅜	---	---	---	1½	2	11
	Over 3¼ to 3	---	15	7½	---	---	---
Egg	Through 3¼ to 3	5	---	---	1½	2	11
	Over 2 7/16	---	15	7½	---	---	---
Stove	Through 2 7/16	7½	---	---	2	3	11
	Over 1⅝	---	15	7½	---	---	---
Chestnut	Through 1⅝	7½	---	---	3	4	11
	Over 13/16	---	15	7½	---	---	---
Pea	Through 13/16	10	---	---	4	5	12
	Over 9/16	---	15	7½	---	---	---
Buckwheat No. 1	Through 9/16	10	---	---	---	---	13
	Over 5/16	---	15	7½	---	---	---
Buckwheat No. 2 (rice)	Through 5/16	10	---	---	---	---	13
	Over 3/16	---	17	7½	---	---	---
Buckwheat No. 3 (barley)	Through 3/16	10	---	---	---	---	15
	Over 3/32	---	20	10	---	---	---
Buckwheat No. 4	Through 3/32	20	---	---	---	---	15
	Over 3/64	---	30	10	---	---	---
Buckwheat No. 5	Through 3/64	30	No limit		---	---	16

[1] When slate content in sizes from broken to chestnut, inclusive, is less than above standards, bone content may be increased by 1½ times the decrease in slate content under the allowable limits, but slate content specified above shall not be exceeded in any event.

A tolerance of 1 percent is allowed on maximum percentage of undersize and maximum percentage of ash content.

Maximum percentage of undersize is applicable only to anthracite as it is produced at preparation plant.

Slate is defined as any material that has less than 40 percent fixed carbon.

Bone is defined as any material that has 40 percent or more, but less than 75 percent, fixed carbon.

[2] Ash determinations are on a dry basis.

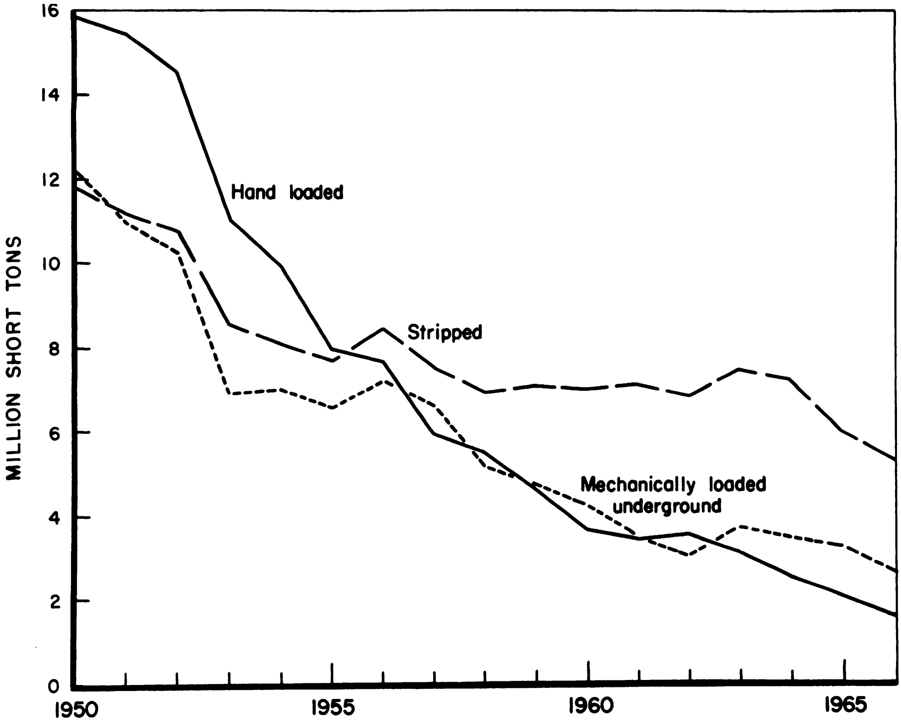

Figure 5.—Pennsylvania anthracite mechanically loaded, hand loaded, and stripped.

Table 22.—Average sales realization of Pennsylvania anthracite (excluding dredge coal) at preparation plants, by regions and sizes

(Per short ton)

Size	Lehigh region					Schuylkill region				
	1962	1963	1964	1965	1966	1962	1963	1964	1965	1966
Lump[1] and broken	-----	-----	-----	-----	-----	$11.34	$12.62	$13.76	-----	-----
Egg	$11.02	$11.75	$13.04	$12.95	$12.46	11.01	11.81	12.92	$12.65	$12.42
Stove	11.46	12.28	13.41	12.62	12.03	10.93	11.92	12.59	11.73	11.30
Chestnut	11.77	12.39	13.44	12.50	11.95	10.97	11.86	12.52	11.68	11.04
Pea	9.36	9.89	11.06	10.09	9.00	8.80	9.63	10.18	9.37	8.66
Total pea and larger	10.92	11.57	12.78	12.01	11.37	10.36	11.28	11.95	11.11	10.51
Buckwheat No. 1	8.03	8.76	9.68	9.28	8.45	8.09	8.78	9.42	8.69	8.68
Buckwheat No. 2 (rice)	8.80	9.25	10.00	9.66	9.32	7.99	8.63	8.99	8.53	8.28
Buckwheat No. 3 (barley)	6.68	6.74	7.21	7.57	7.53	6.54	6.67	6.87	7.12	7.19
Buckwheat No. 4	4.94	4.97	5.33	5.57	5.59	4.58	4.70	4.98	5.26	5.32
Buckwheat No. 5	4.94	4.86	5.17	5.36	5.38	4.16	4.12	4.43	4.31	4.61
Other[2]	2.02	3.00	3.16	2.98	2.99	3.45	3.25	3.37	3.44	3.57
Total buckwheat No. 1 and smaller	5.45	5.89	6.85	6.66	6.26	5.95	6.16	6.25	6.19	6.23
Total all sizes	7.48	7.81	9.19	8.80	7.98	7.68	8.12	8.28	7.75	7.53
	Wyoming region[3]					Total				
Lump[1] and broken	$11.06	$11.72	$12.42	$12.39	$12.50	$11.18	$12.10	$12.84	$12.39	$12.50
Egg	11.21	12.19	12.90	13.12	12.51	11.13	12.03	12.94	12.99	12.48
Stove	11.59	12.42	13.06	12.58	12.17	11.29	12.19	12.92	12.25	11.77
Chestnut	11.98	12.62	13.18	12.51	12.04	11.49	12.24	12.92	12.17	11.59
Pea	10.60	10.83	11.42	10.62	10.34	9.63	10.15	10.82	10.02	9.35
Total pea and larger	11.42	12.06	12.67	12.09	11.65	10.90	11.65	12.38	11.70	11.11
Buckwheat No. 1	8.86	9.51	10.04	9.34	9.01	8.39	9.06	9.69	9.03	8.74
Buckwheat No. 2 (rice)	8.95	9.41	9.73	9.42	9.18	8.47	9.00	9.43	9.03	8.77
Buckwheat No. 3 (barley)	6.77	6.53	6.93	7.42	7.30	6.64	6.64	6.95	7.28	7.28
Buckwheat No. 4	5.30	5.60	5.22	5.82	6.16	4.78	4.90	5.10	5.45	5.56
Buckwheat No. 5	4.61	4.77	4.95	5.08	5.43	4.41	4.44	4.66	4.64	4.93
Other[2]	2.22	1.92	1.87	1.80	2.04	2.62	2.94	2.88	2.86	3.09
Total buckwheat No. 1 and smaller	6.94	7.46	6.97	6.91	6.96	6.14	6.43	6.56	6.48	6.40
Total all sizes	9.26	9.94	9.82	9.46	9.13	8.19	8.64	8.93	8.51	8.08

[1] Quantity of lump included is insignificant.
[2] Includes various mixtures of buckwheat Nos. 2 to 5 and coal of relatively low dollar value.
[3] Includes Sullivan County.

Table 23.—Average value of Pennsylvania anthracite from all sources, by regions[1]

(Per short ton)

Region	1965				1966			
	Shipped by rail	Shipped by truck	Colliery fuel	Total	Shipped by rail	Shipped by truck	Colliery fuel	Total
Lehigh	$8.65	$8.99	$8.88	$8.80	$7.94	$8.02	$8.61	$7.98
Schuylkill	6.68	7.90	7.71	7.33	6.29	7.84	7.83	7.12
Wyoming[2]	10.50	8.53	1.54	9.24	9.81	8.69	1.52	8.85
Total	8.25	8.28	2.31	8.21	7.51	8.12	2.22	7.78

[1] Value given for shipments is that at which coal left possession of producing company; does not include selling expenses.
[2] Includes Sullivan County.

Table 24.—Wholesale prices of Pennsylvania anthracite, in 1966, by sizes [1]

(Per short ton)

	Winter	Spring discount	Summer-fall	End of year
Egg and Stove	$14.00–$14.25	$12.00–$12.50	$13.50	$14.00
Chestnut	13.75–14.25	11.75–12.25	13.25	13.75
Pea	10.75–11.25	9.50–10.00	10.40–10.75	10.65–11.00
Buckwheat No. 1	10.00	8.75–9.50	9.85	10.00–10.10
Buckwheat No. 2 (rice)	9.75	8.50–9.00	9.60	9.85–9.90
Buckwheat No. 3 (barley)	8.50	8.50–8.55	8.70–9.75	8.70–8.75

[1] As quoted in Saward's Journal. All prices are per short ton f.o.b. cars at mines. Some companies charge an additional $0.25 per short ton for trademarking their coal.

Table 25.—Employment at operations producing Pennsylvania anthracite (including strip contractors) in 1966

	Lehigh region	Schuylkill region	Wyoming region [1]	Total	
				1966	1965
Average number of men working daily:					
Underground	68	1,510	1,754	3,332	4,501
In strip pits	692	906	487	2,085	2,349
At culm banks	140	226	136	502	566
At preparation plants	494	959	503	1,956	2,047
Other surface	50	510	779	1,339	1,572
Total excluding dredge operations	1,444	4,111	3,659	9,214	11,035
Dredge operations	-------	78	-------	78	97
Total	1,444	4,189	3,659	9,292	11,132
Average number of days active:					
All operations except dredges	223	196	200	202	204
Dredge operations	-------	271	-------	271	247
Average, all operations	223	198	200	203	204
Man-days of labor:					
All operations except dredges	321,565	806,871	733,412	1,861,848	2,247,290
Dredge operations	-------	21,125	-------	21,125	23,912
Total, all operations	321,565	827,996	733,412	1,882,973	2,271,202
Average tons per man-day:					
All operations except dredges	9.09	7.30	4.72	6.60	6.30
Dredge operations	-------	31.32	-------	31.32	29.29
Average, all operations	9.09	7.91	4.72	6.87	6.55

[1] Includes Sullivan County.

Table 26.—Employment at operations producing Pennsylvania anthracite (including strip contractors) by counties

County	1965	1966	County	1965	1966
Berks, Lancaster, Lebanon, and Snyder	82	71	Northumberland	1,498	1,093
Carbon	224	234	Schuylkill	3,798	3,123
Columbia	355	238	Sullivan	17	14
Dauphin	166	124	Susquehanna and Wayne [1]	3	5
Lackawanna	942	840	Total	11,132	9,292
Luzerne	4,052	3,550			

[1] None employed in Wayne in 1965.

Table 27.—Distribution of Pennsylvania anthracite, April 1, 1965 to March 31, 1966, by destination

(Short tons)

Destination	Pea and larger					Buckwheat No. 1 and smaller					Total all sizes	Percent of total
	Broken and egg	Stove	Chestnut	Pea	Total	Buckwheat No. 1	Buckwheat No. 2 (rice)	Buckwheat No. 3 (barley)	Other	Total		
United States:												
New England States:												
Connecticut	569	14,277	18,076	839	33,761	2,079	4,480	16,436	14	23,009	56,770	0.4
Maine	642	14,845	12,576	365	28,428	3,118	7,551	------	1	10,670	39,098	.3
Massachusetts	4,803	58,393	34,987	5,869	104,052	18,553	23,261	77	378	42,269	146,321	1.2
New Hampshire	168	7,723	6,004	476	14,371	1,885	4,849	------	30	6,764	21,135	.2
Rhode Island	52	4,305	2,909	309	7,575	2,673	672	155	------	3,500	11,075	.1
Vermont	281	15,255	10,042	2,245	27,823	9,804	15,424	------	------	25,228	53,051	.4
Total	6,515	114,798	84,594	10,103	216,010	38,112	56,237	16,668	423	111,440	327,450	2.6
Middle Atlantic States:												
New Jersey	5,742	88,933	206,383	68,836	369,894	182,627	112,089	198,692	284,506	777,914	1,147,808	9.3
New York	13,857	287,467	214,053	366,744	882,121	223,968	130,776	243,018	180,353	778,115	1,660,236	13.4
Pennsylvania [1]	7,918	440,509	953,863	750,749	2,153,039	982,108	927,925	1,160,593	1,125,252	4,195,878	6,348,917	51.1
Total	27,517	816,909	1,374,299	1,186,329	3,405,054	1,388,703	1,170,790	1,602,303	1,590,111	5,751,907	9,156,961	73.8
South Atlantic States:[2]												
Delaware	2,476	8,192	14,439	2,398	27,505	964	352	5,032	161	6,509	34,014	.3
District of Columbia	139	6,765	4,997	589	12,490	3,624	708	495	------	4,827	17,317	.1
Maryland	223	25,203	16,559	2,341	44,326	23,540	5,162	624	215,311	244,637	288,963	2.3
Virginia	81	4,380	2,291	18,691	25,443	2,311	240	13	6,852	9,416	34,859	.3
Total	2,919	44,540	38,286	24,019	109,764	30,439	6,462	6,164	222,324	265,389	375,153	3.0
Lake States:[3]												
Illinois	------	1,395	2,437	3,788	7,620	60,313	14,028	3,227	23,412	100,980	108,600	.9
Michigan	25	15,773	1,939	133	17,870	11,048	3,876	21	105,681	120,626	138,496	1.1
Minnesota	------	97	178	58	333	16	11	3	34,907	34,937	35,270	.3
Ohio	20	204	1,224	1,506	2,954	33,911	11,101	224	103,560	148,796	151,750	1.2
Wisconsin	------	8,301	9,036	268	17,605	1,574	1,248	16	462	3,300	20,905	.2
Total	45	25,770	14,814	5,753	46,382	106,862	30,264	3,491	268,022	408,639	455,021	3.7
Other States	1,215	13,801	5,031	22,310	42,357	49,267	10,254	24,979	225,560	310,060	352,417	2.8
Total United States	38,211	1,015,818	1,517,024	1,248,514	3,819,567	1,613,383	1,274,007	1,653,605	2,306,440	6,847,435	10,667,002	85.9
Canada:												
Ontario	629	124,082	90,478	33,050	248,239	58,974	17,404	137	1,342	77,857	326,096	2.6
Quebec	211	17,612	9,684	677	28,184	14,412	13,459	51,083	189	79,143	107,327	.9
Other Provinces	478	3,634	2,211	1	6,324	16	793	3	245	1,057	7,381	.1
Total Canada	1,318	145,328	102,373	33,728	282,747	73,402	31,656	51,223	1,776	158,057	440,804	3.6
Other countries	317,834	498,243	345,838	17,464	1,179,379	84,214	7	3,669	38,210	126,100	1,305,479	10.5
Grand total	357,363	1,659,389	1,965,235	1,299,706	5,281,693	1,770,999	1,305,670	1,708,497	2,346,426	7,131,592	12,413,285	100.0

[1] Includes "Local Sales."

[2] Shipments to other States in the South Atlantic area are included in "Other States."

[3] Shipments to Indiana are included in "Other States."

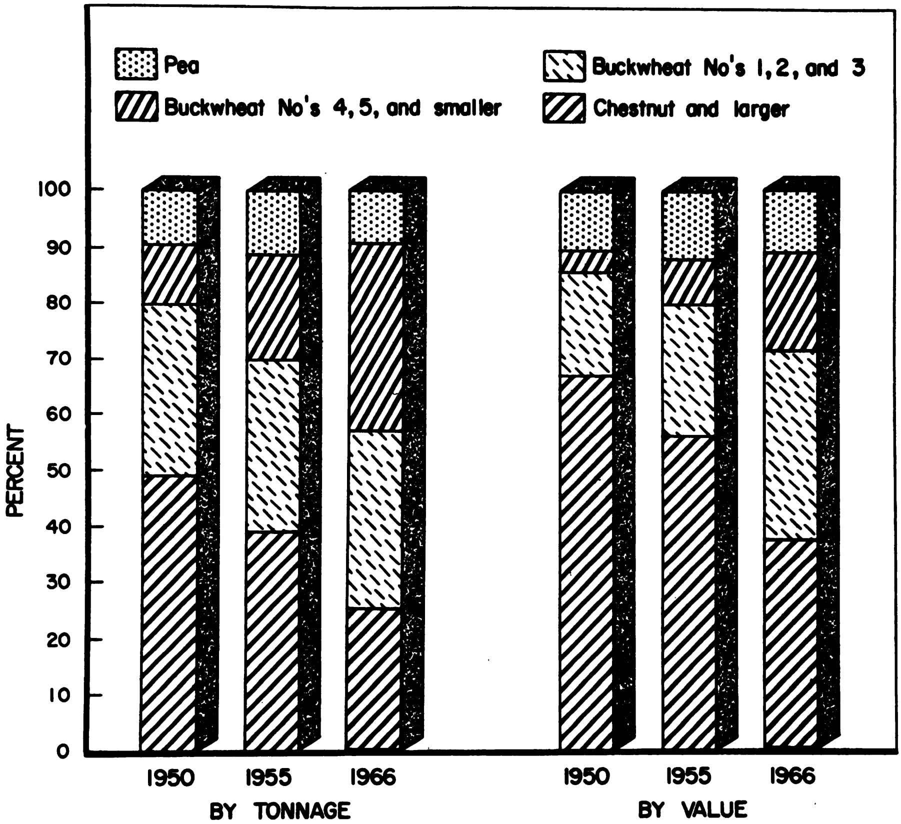

Figure 6.—Shipments of Pennsylvania anthracite, by size groups, in percent of total tonnage and total value.

Table 28.—Truck shipments of Pennsylvania anthracite in 1966, by months, and by State of destination [1]

(Short tons)

Destination	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percent of total trucked
Pennsylvania:														
Within region	253,009	278,443	197,470	181,860	164,738	165,571	109,889	140,734	162,971	207,079	218,191	263,449	2,343,404	38.9
Outside region	299,110	265,379	233,466	213,700	220,852	180,003	146,379	201,647	197,309	226,219	239,089	261,559	2,684,712	44.6
New York	47,597	56,984	38,808	28,354	32,135	36,471	27,081	38,259	34,460	49,210	41,054	46,670	477,083	7.9
New Jersey	36,595	43,422	35,672	32,574	31,939	32,552	20,465	28,397	30,799	35,653	28,484	35,256	391,808	6.5
Delaware	3,076	3,835	1,824	1,224	1,996	1,553	341	2,273	2,042	2,327	2,155	3,251	25,897	.4
Maryland	8,399	8,432	3,946	3,176	2,182	2,415	1,324	3,141	6,051	9,254	5,714	14,619	68,653	1.2
District of Columbia	1,637	2,564	858	520	160	78	62	50	340	580	644	925	8,418	.1
Other States	2,124	3,213	2,008	1,307	720	699	702	1,924	1,879	2,178	1,640	2,223	20,617	.4
Total:														
1966	651,547	662,272	514,052	462,715	454,722	419,342	306,243	416,425	435,851	532,500	536,971	627,952	6,020,592	100.0
1965	740,960	738,456	669,354	568,736	434,639	487,377	444,814	425,271	482,637	524,231	592,114	703,018	6,811,607	100.0

[1] Compiled from reports of Pennsylvania Department of Mines and Mineral Industries; does not include dredge coal.

Table 29.—Truck shipments of Pennsylvania anthracite, by destinations [1]

(Short tons)

Destination	1962	1963	1964	1965	1966
Pennsylvania:					
Within region	3,471,725	3,227,838	3,231,333	2,712,133	2,343,404
Outside region	2,915,220	3,155,875	3,284,221	3,014,508	2,684,712
New York	844,447	870,186	691,987	521,330	477,083
New Jersey	591,905	547,333	500,921	440,236	391,808
Delaware	43,863	37,465	34,019	29,949	25,897
Maryland	92,249	89,995	78,227	63,038	68,653
District of Columbia	6,573	4,443	5,079	6,900	8,418
Other States	32,214	36,971	36,070	23,513	20,617
Total	7,998,196	7,970,106	7,861,857	6,811,607	6,020,592

[1] Compiled from reports of Pennsylvania Department of Mines and Mineral Industries; does not include dredge coal.

Table 30.—Rail shipments of Pennsylvania anthracite, by destinations [1]

(Short tons)

Destination	1962	1963	1964	1965	1966
New England States	465,535	407,194	381,380	297,679	221,210
New York	1,939,004	1,515,786	1,317,443	1,055,689	956,923
New Jersey	858,587	675,159	640,969	654,031	398,679
Pennsylvania	2,309,182	2,001,932	2,209,434	1,779,815	1,246,650
Delaware	21,373	16,630	12,002	6,302	3,819
Maryland	182,222	207,904	230,209	184,048	209,903
District of Columbia	15,983	14,982	19,008	11,889	9,446
Virginia	18,876	10,613	12,373	38,889	28,693
Ohio	165,211	138,546	162,154	142,136	120,860
Indiana	29,754	26,306	72,358	79,845	66,709
Illinois	75,435	77,548	102,438	120,683	103,336
Wisconsin	41,322	24,562	29,408	20,975	19,412
Minnesota	6,304	8,394	21,492	39,448	24,672
Michigan	43,028	35,377	50,964	84,266	53,504
Other States	190,028	217,351	231,842	272,459	304,508
Total United States	6,361,844	5,378,284	5,493,474	4,788,154	3,768,324
Canada	713,336	647,437	513,061	463,586	433,551
Other countries	516,376	1,953,671	1,443,751	1,170,179	741,426
Grand total	7,591,556	7,979,392	7,450,286	6,421,919	4,943,301

[1] Compiled from reports of Pennsylvania Department of Mines and Mineral Industries; does not include dredge coal.

Table 31.—Apparent consumption of anthracite, heating and range oil, and natural gas, in the principal anthracite markets

(Thousand short tons)

Fuel	New England	New York	New Jersey	Pennsylvania	Delaware	Maryland	District of Columbia	Total	Percent of total fuels
Anthracite (all users): [1]									
1963	407	[2] 2,386	[2] 1,223	8,386	54	298	19	12,773	8.6
1964	381	[2] 2,009	[2] 1,142	8,725	46	309	24	12,636	8.5
1965	298	[2] 1,577	[2] 1,094	r 7,507	36	247	19	r 10,778	6.7
1966	221	[2] 1,434	[2] 790	6,275	30	279	18	9,047	5.5
Oil (heating and range): [3]									
1963	31,783	32,154	12,829	12,519	1,148	4,506	1,167	96,106	64.4
1964	31,432	30,988	12,851	12,484	934	4,692	1,498	94,879	63.7
1965	34,950	36,670	13,469	13,123	975	4,534	2,173	105,894	66.2
1966	34,202	37,015	14,247	13,155	1,037	4,882	2,217	106,755	65.1
Natural gas: [4]									
1963	4,611	14,290	4,897	12,992	249	3,218	(5)	40,257	27.0
1964	4,850	14,499	5,303	13,080	262	3,397	(5)	41,391	27.8
1965	5,129	15,465	5,565	13,359	289	3,568	(5)	43,375	27.1
1966	5,520	18,280	6,003	14,404	320	3,616	(5)	48,143	29.4
Total:									
1963	36,801	48,830	18,949	33,897	1,451	8,022	[6] 1,186	149,136	100.0
1964	36,663	47,496	19,296	34,289	1,242	8,398	[6] 1,522	148,906	100.0
1965	40,377	53,712	20,128	r 33,989	1,300	8,349	[6] 2,192	r 160,047	100.0
1966	39,943	56,729	21,040	33,834	1,387	8,777	[6] 2,235	163,945	100.0

r Revised.

[1] Pennsylvania Department of Mines and Mineral Industries.

[2] Part of the anthracite shown as shipped to New Jersey is reshipped to New York.

[3] Converted to coal equivalent upon the basis of 4 barrels of fuel oil equaling 1 ton of coal.

[4] Converted to coal equivalent upon the basis of 24,190 cubic feet of natural gas equaling 1 ton of coal.

[5] District of Columbia included with Maryland.

[6] Natural gas for the District of Columbia included with Maryland.

Table 32.—Consumption of Pennsylvania anthracite in the United States, by consumer categories

(Thousand short tons)

Year	Residential and commercial heating[1]	Colliery fuel	Rail-roads[2]	Electric utilities[3]	Briquet plants	Cement plants	Iron and steel industry			Other indus-trial[1]	Un-accounted for[1]
							Coke making	Sintering and pel-letizing[4]	Other[5]		
1945	35,578	2,118	1,009	3,122	900	12	323	---	673	1,116	6,749
1946	37,530	1,963	1,079	3,453	1,099	19	239	---	583	1,646	6,289
1947	32,955	1,905	941	3,522	1,065	19	262	---	560	1,313	5,658
1948	37,712	1,861	905	3,966	1,152	8	256	---	632	2,111	1,597
1949	28,071	1,164	736	3,354	647	22	173	---	415	2,013	1,105
1950	30,161	1,116	772	3,609	638	22	169	---	452	2,130	831
1951	27,153	1,037	678	3,870	508	18	237	---	492	1,684	1,323
1952	25,394	927	627	3,762	456	170	207	---	472	3,049	236
1953	19,232	621	532	3,614	305	194	275	---	483	2,348	396
1954	17,279	608	446	3,166	261	200	229	---	437	2,998	1,276
1955	15,422	419	457	3,209	264	199	366	385	443	1,469	967
1956	15,542	342	409	3,296	228	244	377	564	625	1,687	686
1957	13,327	279	361	3,363	156	221	389	868	698	1,065	73
1958	12,309	195	335	2,786	120	183	255	685	686	1,142	304
1959	11,668	129	292	2,629	43	159	369	780	683	1,981	67
1960	10,543	102	248	2,751	31	152	370	754	720	1,604	325
1961	9,564	45	NA	2,509	28	153	320	588	685	1,914	94
1962	8,328	152	NA	2,297	W	188	420	560	609	1,692	54
1963	7,890	161	NA	2,155	W	184	451	766	670	1,664	159
1964	7,550	144	NA	2,239	W	153	492	1,014	NA	2,713	95
1965	6,628	143	NA	2,158	W	269	507	966	NA	2,071	158
1966	5,622	141	NA	2,192	W	187	515	897	NA	1,715	131

NA Not available.

[1] Calculated.

[2] Association of American Railroads.

[3] Federal Power Commission.

[4] Annual Statistical Report, American Iron and Steel Institute.

[5] Annual Statistical Report, American Iron and Steel Institute. Contains a small but not exactly determined amount of anthracite used for sintering.

W Withheld to avoid disclosing of individual company confidential data.

Table 33.—U.S. exports of anthracite by countries and customs districts

(Thousand short tons)

Country	1965	1966
North America:		
Canada	643	624
Mexico	9	23
Netherlands Antilles	(1)	---
Panama	(1)	1
Other	(1)	1
Total	652	649
South America:		
Argentina	5	4
Brazil	2	6
Chile	(1)	1
Columbia	1	(1)
Surinam	2	1
Venezuela	10	9
Other	(1)	(1)
Total	20	21
Europe:		
Belgium-Luxembourg	31	(1)
France	30	9
Italy	39	32
Netherlands	3	---
Norway	(1)	2
Rumania	---	10
Spain	29	10
United Kingdom	1	1
Yugoslavia	---	1
Other	1	(1)
Total	134	65
Africa	(1)	(1)
Asia:		
India	5	3
Indonesia	1	(1)
Iran	---	(1)
Japan	---	2
Philippines	1	1
Thailand	2	6
Viet-Nam, South	30	17
Other	1	(1)
Total	40	29
Oceania	5	2
Grand total	851	766

Customs district	1965	1966
North Atlantic:		
Portland, Maine	(1)	3
New York City	7	4
Philadelphia	371	290
South Atlantic:		
Savannah	(1)	---
Baltimore	(1)	(1)
Norfolk	14	7
Gulf Coast:		
Galveston	8	---
Houston	---	7
New Orleans	3	2
Mexican border: Laredo	9	23
Northern border:		
Buffalo [2]	329	345
Chicago	---	2
Detroit	2	7
Duluth	1	---
Great Falls	19	---
Milwaukee	1	---
Ogdensburg	86	75
Pembina	---	1
St. Albans	1	---
Pacific Coast: Seattle	(1)	---
Total	851	766

[1] Less than ½ unit.

[2] Effective January 1, 1966, Rochester no longer separately classified; included in Buffalo customs district.

NOTE.—According to the Association of American Railroads, 830,216 short tons of anthracite was exported to Europe during 1966 compared with 1,246,261 tons for 1965. Of this total 764,974 tons was consigned to West Germany and the Netherlands, including exports to the U. S. military forces. This compares with 1,133,409 tons for 1965.

Table 34.—World production of anthracite, by countries

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p]
Belgium	6,338	6,597	6,680	5,893	5,457
Bulgaria	217	239	[r] 244	[r] 209	[e] 185
China, mainland [e]	22,000	22,000	23,100	24,300	25,400
France	12,942	11,998	13,511	[r] 13,660	[e] 10,820
Germany:					
East [e]	275	275	275	275	275
West	14,351	14,969	16,217	15,526	13,725
Ireland	146	164	[r] 169	[r] 130	[e] 135
Italy	19	15	10	7	(1)
Japan	2,065	1,982	1,884	1,797	1,777
Korea:					
North [e]	9,900	10,700	12,300	16,000	17,100
South	8,206	9,764	[r] 10,606	11,296	12,801
Morocco	408	445	441	[r] 462	497
Netherlands [e]	4,400	4,300	4,300	4,300	3,800
New Zealand	1	(1)	(1)	(1)	-----
Peru	24	11	[r] 35	[r] 9	15
Portugal	446	459	489	472	461
Rumania [e]	17	17	17	17	17
South Africa, Republic of	1,224	1,270	1,449	1,374	1,187
Spain	2,913	3,057	2,954	3,059	3,028
Swaziland	-----	-----	4	33	74
U.S.S.R.	84,175	84,530	86,905	[r] 88,700	[e] 88,700
United Kingdom	4,371	4,658	5,150	[r] 4,707	4,986
United States (Pennsylvania)	16,894	18,267	17,184	14,866	12,941
Viet-Nam:					
North	3,823	3,689	[e] 3,700	[e] 3,900	[e] 3,900
South	78	115	85	-----	-----
World total [e]	195,200	199,500	207,700	[r] 211,400	207,300

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Less than ½ unit.

NOTE.—An undetermined amount of semi-anthracite is included in the figures for some countries.

Coke and Coal Chemicals

Table 1.—Salient coke statistics

	1957–59 (average)	1964	1965	1966
United States:				
Production:				
Oven coke--------short tons--	60,551,900	60,908,391	65,197,523	65,959,298
Beehive coke-----------do----	1,254,232	1,236,287	1,656,938	1,442,292
Total---------------do----	61,806,132	62,144,678	66,854,461	67,401,590
Imports-------------------do----	120,908	103,286	89,620	95,761
Exports-------------------do----	558,428	523,695	833,668	1,102,166
Producers' stocks, Dec. 31---do----	[1] 4,682,436	1,971,892	2,702,946	3,078,768
Consumption, apparent-----do----	60,585,947	62,637,308	65,379,359	66,019,363
Ovens:				
Slot in existence, Dec. 31------	[1] 15,993	14,639	14,357	14,720
Beehive in existence, Dec. 31---	[1] 7,448	5,071	3,433	2,388
Value of coal-chemical materials used or sold--------------------	$330,902,284	$290,952,399	$311,406,722	$309,143,483
Value of coke and breeze produced--	1,143,589,918	1,128,925,328	1,153,730,420	1,193,532,833
Total value of all products-------	1,474,492,202	1,419,877,727	1,465,137,142	1,502,676,316
World production:				
Hard coke thousand short tons--	287,855	r 327,275	r 340,088	338,980
Gashouse and low-temperature coke---------------do----	51,130	r 48,450	r 45,150	43,340

r Revised.

[1] 1959.

Table 2.—Summary of the coke industry in the United States in 1966

	Slot ovens	Beehive ovens	Total
Coke produced:			
At merchant plants:			
Short tons----------------------------------	6,376,689	(1)	(1)
Value---------------------------------------	$149,440,829	(1)	(1)
At furnace plants: [2]			
Short tons----------------------------------	59,582,609	(1)	(1)
Value---------------------------------------	$994,740,541	(1)	(1)
Total:			
Short tons----------------------------------	65,959,298	1,442,292	67,401,590
Value---------------------------------------	$1,144,181,370	$21,867,344	$1,166,048,714
Breeze produced:			
Short tons----------------------------------	4,012,360	36,195	4,048,555
Value---------------------------------------	$27,416,947	$67,172	$27,484,119
Coal carbonized:			
Bituminous:			
Short tons----------------------------------	93,522,957	2,368,876	95,891,833
Value---------------------------------------	$913,689,182	$13,039,987	$926,729,169
Average per ton-----------------------	$9.77	$5.50	$9.66
Anthracite:			
Short tons----------------------------------	514,501	-----	514,501
Value---------------------------------------	$5,581,323	-----	$5,581,323
Average per ton-----------------------	$10.85	-----	$10.85
Total:			
Short tons----------------------------------	94,037,458	2,368,876	96,406,334
Value---------------------------------------	$919,270,505	$13,039,987	$932,310,492
Average per ton-----------------------	$9.78	$5.50	$9.67

See footnotes at end of table.

Table 2.—Summary of the coke industry in the United States in 1966—Continued

	Slot ovens	Beehive ovens	Total
Average yield in percent of total coal carbonized:			
Coke	70.14	60.89	69.91
Breeze (at plants actually recovering)	4.27	6.38	4.28
Coke used by producing companies:			
In blast furnaces:			
Short tons	56,752,047	(3)	56,752,047
Value	$940,037,105	(3)	$940,037,105
In foundries:			
Short tons	376,043	-----	376,043
Value	$12,325,975	-----	$12,325,975
For other industrial uses:			
Short tons	404,906	-----	404,906
Value	$7,862,358	-----	$7,862,358
Breeze used by producing companies:			
In steam plants:			
Short tons	644,414	-----	644,414
Value	$4,138,636	-----	$4,138,636
In agglomerating plants:			
Short tons	1,872,767	-----	1,872,767
Value	$12,618,499	-----	$12,618,499
For other industrial uses:			
Short tons	505,257	-----	505,257
Value	$3,147,239	-----	$3,147,239
Coke sold (commercial sales):			
To blast furnaces:			
Short tons	3,492,172	970,668	4,462,840
Value	$57,016,018	$13,269,220	$70,285,238
Average per ton	$16.33	$13.67	$15.75
To foundries:			
Short tons	3,001,866	12,313	3,014,179
Value	$95,321,692	$188,817	$95,510,509
Average per ton	$31.75	$15.33	$31.69
To other industrial plants:			
Short tons	1,407,725	435,870	1,843,595
Value	$23,792,936	$7,309,509	$31,102,445
Average per ton	$16.90	$16.77	$16.87
For residential heating:			
Short tons	112,128	8,163	120,291
Value	$1,950,098	$96,758	$2,046,856
Average per ton	$17.39	$11.85	$17.02
Breeze sold (commercial sales):			
Short tons	1,135,841	36,195	1,172,036
Value	$8,452,677	$67,280	$8,519,957
Average per ton	$7.44	$1.86	$7.27
Coal-chemical materials produced:			
Crude tar:			
Gallons	801,867,163	-----	801,867,163
Gallons per ton of coal	8.53	-----	8.53
Ammonia: [4]			
Short tons	862,007	-----	862,007
Pounds per ton of coal	18.79	-----	18.79
Crude light oil:			
Gallons	262,639,643	-----	262,639,643
Gallons per ton of coal	2.86	-----	2.86
Gas:			
Thousand cubic feet	989,804,921	-----	989,804,921
Thousand cubic feet per ton of coal	10.53	-----	10.53
Percent burned in coking process	35.06	-----	35.06
Percent surplus used or sold	63.61	-----	63.61
Percent wasted	1.33	-----	1.33
Value of coal-chemical materials used or sold:			
Crude tar and derivatives:			
Used	$30,863,280	-----	$30,863,280
Sold	$63,630,815	-----	$63,630,815
Ammonia products [5]	$26,295,619	-----	$26,295,619
Crude light oil and derivatives [6]	$45,213,472	-----	$45,213,472
Surplus gas	$143,140,297	-----	$143,140,297

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[1] Not separately recorded.
[2] Plants associated with iron-blast furnaces.
[3] Included with sales to avoid disclosing individual company data.
[4] In terms of sulfate equivalent.
[5] Includes ammonium sulfate, ammonia liquor (NH_3 content), and diammonium phosphate.
[6] Includes intermediate light oil.

Table 3.—Summary of oven-coke operations in the United States in 1966, by States

State	In existence Dec. 31 [1]		Coal carbonized (short tons)	Yield of coke from coal (percent)	Coke produced (short tons)	Value of coke at ovens	
	Plants	Ovens				Total	Per ton
Alabama	7	1,443	7,473,576	72,38	5,409,254	$92,636,320	$17.13
California, Colorado, Utah	3	773	5,084,915	63,29	3,218,244	76,232,106	23,69
Connecticut, Maryland, New Jersey, New York	6	1,807	12,201,844	70.81	8,639,712	147,543,568	17.08
Illinois	6	568	3,692,815	69.78	2,576,961	51,671,535	20.05
Indiana	5	2,218	12,113,076	69.52	8,420,833	144,979,364	17.22
Kentucky, Missouri, Tennessee, Texas	5	438	2,748,248	71.54	1,966,194	37,916,366	19.28
Michigan	3	739	5,068,304	74.09	3,755,141	64,266,379	17.11
Minnesota and Wisconsin	3	380	1,572,602	76.62	1,204,892	25,728,395	21.35
Ohio	13	2,249	12,105,983	70.34	8,515,460	146,305,170	17.18
Pennsylvania	12	3,437	26,795,071	69.75	18,690,843	295,279,428	15.80
West Virginia	3	668	5,181,024	68.75	3,561,764	61,622,739	17.30
Total 1966	66	14,720	94,037,458	70.14	65,959,298	1,144,181,370	17.35
At merchant plants	16	1,860	8,794,224	72.51	6,376,689	149,440,829	23.44
At furnace plants	50	12,860	85,243,234	69.90	59,582,609	994,740,541	16.70
Total 1965	65	14,357	92,593,237	70.41	65,197,523	1,100,943,787	16.89

[1] Excludes plants retired permanently during year.

Table 4.—Summary of beehive-coke operations in the United States in 1966, by States

State	In existence Dec. 31 [1]		Coal carbonized (short tons)	Yield of coke from coal (percent)	Coke produced (short tons)	Value of coke at ovens	
	Plants	Ovens				Total	Per ton
Pennsylvania	7	1,284	989,053	61.64	609,649	$ 8,238,380	$13.51
Kentucky, Virginia, West Virginia	8	1,104	1,379,823	60.34	832,643	13,628,964	16.37
Total:							
1966	15	2,388	2,368,876	60.89	1,442,292	21,867,344	15.16
1965	21	3,433	2,692,701	61.53	1,656,938	24,812,638	14.97

[1] Excludes plants retired permanently during year.

Table 5.—Production of oven and beehive coke in the United States, by months [1]

(Short tons)

Month	1957-59 (average)		1964		1965		1966	
	Total	Daily average	Total	Daily average	Total	Daily average	Total	Daily average
Oven coke:								
January	5,630,000	181,600	4,660,100	150,300	5,626,200	181,500	5,205,400	167,900
February	5,159,400	184,300	4,485,000	154,700	5,149,200	183,900	4,914,900	175,600
March	5,744,700	185,300	4,820,300	155,500	5,755,400	185,700	5,620,700	181,300
April	5,378,300	179,300	4,853,900	161,800	5,592,900	186,400	5,422,300	180,700
May	5,532,400	178,500	5,191,500	167,500	5,806,300	187,300	5,696,200	183,800
June	5,352,800	178,400	5,036,500	167,900	5,589,900	186,300	5,549,500	185,000
July	4,603,300	148,500	5,163,400	166,500	5,622,900	181,400	5,704,200	184,000
August	4,151,700	133,900	5,138,200	165,800	5,572,700	179,800	5,736,000	185,000
September	4,121,500	137,400	5,141,000	171,300	5,230,200	174,300	5,533,700	184,500
October	4,340,000	140,000	5,476,100	176,600	5,179,200	167,100	5,625,600	181,500
November	5,002,600	166,800	5,373,300	179,100	4,948,600	165,000	5,446,600	181,600
December	5,535,200	178,500	5,569,100	179,600	5,124,000	165,300	5,504,200	177,500
Total	60,551,900	165,900	60,908,400	166,400	65,197,500	178,600	65,959,300	180,700
Beehive coke:								
January	132,200	4,300	86,100	2,800	178,500	5,700	98,600	3,200
February	127,900	4,500	82,100	2,800	163,300	5,800	98,700	3,500
March	150,300	4,900	93,100	3,000	197,100	6,300	115,300	3,700
April	138,900	4,600	92,500	3,100	162,700	5,500	107,500	3,600
May	118,700	3,800	93,900	3,000	149,000	4,800	113,100	3,600
June	107,900	3,600	81,400	2,700	176,500	5,900	121,400	4,000
July	80,000	2,600	69,800	2,300	159,000	5,100	102,100	3,300
August	82,600	2,700	94,300	3,000	164,800	5,300	140,400	4,600
September	78,600	2,600	113,200	3,800	89,900	3,000	142,300	4,700
October	75,300	2,400	126,800	4,100	73,500	2,300	141,400	4,500
November	76,100	2,500	142,300	4,800	65,100	2,100	135,100	4,500
December	85,700	2,800	160,800	5,200	77,600	2,500	126,400	4,100
Total	1,254,200	3,400	1,236,300	3,400	1,657,000	4,600	1,442,300	4,000
Total:								
January	5,762,200	185,900	4,746,200	153,100	5,804,700	187,200	5,304,000	171,100
February	5,287,300	188,800	4,567,100	157,500	5,312,500	189,700	5,013,600	179,100
March	5,895,000	190,200	4,913,400	158,500	5,952,500	192,000	5,736,000	185,000
April	5,517,200	183,900	4,946,400	164,900	5,755,600	191,900	5,529,800	184,300
May	5,651,100	182,300	5,285,400	170,500	5,955,300	192,100	5,809,300	187,400
June	5,460,700	182,000	5,117,900	170,600	5,766,400	192,200	5,670,900	189,000
July	4,683,300	151,100	5,233,200	168,800	5,781,900	186,500	5,806,300	187,300
Auguat	4,234,300	136,600	5,232,500	168,800	5,737,500	185,100	5,876,400	189,600
September	4,200,100	140,000	5,254,200	175,100	5,320,100	177,300	5,676,000	189,200
October	4,415,300	142,400	5,602,900	180,700	5,252,700	169,400	5,767,000	186,000
November	5,078,700	169,300	5,515,600	183,900	5,013,700	167,100	5,581,700	186,100
December	5,620,900	181,300	5,729,900	184,800	5,201,600	167,800	5,630,600	181,600
Total	61,806,100	169,300	62,144,700	169,800	66,854,500	183,200	67,401,600	184,700

[1] Daily average calculated by dividing monthly production by number of days in month.

Table 6.—Production of oven coke in the United States, by type of plant

(Short tons)

Month	1957-59 (average)		1964		1965		1966	
	Merchant plants	Furnace plants	Merchant plants	Furnace plants	Merchant plants	Furnace plants	Merchant plants	Furnace plants
Production:								
January	705,700	4,924,300	515,000	4,145,100	571,100	5,055,100	542,000	4,663,400
February	641,100	4,518,300	507,000	3,978,000	521,700	4,627,500	496,000	4,418,900
March	681,400	5,063,300	541,200	4,279,100	598,100	5,157,300	564,900	5,055,800
April	612,900	4,765,400	528,300	4,325,600	563,600	5,029,300	540,200	4,882,100
May	609,800	4,922,600	544,100	4,647,400	577,100	5,229,200	546,800	5,149,400
June	575,800	4,777,000	520,700	4,515,800	548,900	5,041,000	520,300	5,029,200
July	569,100	4,034,200	524,500	4,638,900	559,400	5,063,500	539,500	5,164,700
August	573,200	3,578,500	494,900	4,643,300	552,900	5,019,800	543,500	5,192,500
September	572,900	3,548,600	514,600	4,626,400	528,200	4,702,000	523,700	5,010,000
October	586,000	3,754,000	532,600	4,943,500	551,300	4,627,900	511,800	5,113,800
November	582,700	4,419,900	546,000	4,827,300	544,000	4,404,600	504,500	4,942,100
December	649,000	4,886,200	566,600	5,002,500	557,000	4,567,000	543,500	4,960,700
Total	7,359,600	53,192,300	6,335,500	54,572,900	6,673,300	58,524,200	6,376,700	59,582,600
Daily average:								
January	22,800	158,800	16,600	133,700	18,400	163,100	17,500	150,400
February	22,900	161,400	17,500	137,200	18,600	165,300	17,700	157,900
March	22,000	163,300	17,500	138,000	19,300	166,400	18,200	163,100
April	20,400	158,900	17,600	144,200	18,800	167,600	18,000	162,700
May	19,700	158,800	17,600	149,900	18,600	168,700	17,700	166,100
June	19,200	159,200	17,400	150,500	18,300	168,000	17,400	167,600
July	18,400	130,100	16,900	149,600	18,100	163,300	17,400	166,600
August	18,500	115,400	16,000	149,800	17,900	161,900	17,500	167,500
September	19,100	118,300	17,100	154,200	17,600	156,700	17,500	167,000
October	18,900	121,100	17,200	159,400	17,800	149,300	16,500	165,000
November	19,400	147,400	18,200	160,900	18,200	146,800	16,800	164,800
December	20,900	157,600	18,300	161,300	18,000	147,300	17,500	160,000
Average for year	20,200	145,700	17,300	149,100	18,300	160,300	17,500	163,200

Table 7.—Production of oven coke and number of plants in the United States, by type of plant

Year	Number of active plants[1]		Coke produced (short tons)		Percent of production	
	Merchant plants	Furnace plants	Merchant plants	Furnace plants	Merchant plants	Furnace plants
1957–59 (average)	[2]21	[2]54	7,359,600	53,192,300	12.2	87.8
1963	17	47	5,626,701	47,680,908	10.6	89.4
1964	17	47	6,335,528	54,572,863	10.4	89.6
1965	17	48	6,673,272	58,524,251	10.2	89.8
1966	16	50	6,376,689	59,582,609	9.7	90.3

[1] Includes plants operating any part of year.
[2] Dec. 31, 1959.

Table 8.—Production of coke in the United States, by States

(Short tons)

State	1957–59 (average)	1963	1964	1965	1966
Oven coke:					
Alabama	5,024,645	4,281,587	4,689,108	5,490,718	5,409,254
California, Colorado, Utah	2,701,547	2,408,363	2,935,921	3,186,675	3,218,244
Connecticut, Maryland, New Jersey, New York	[1] 7,821,854	6,354,716	7,687,284	8,427,762	8,639,712
Illinois	2,291,276	1,871,204	2,298,576	2,503,994	2,576,961
Indiana	8,148,294	7,541,430	8,170,323	8,315,372	8,420,833
Kentucky, Missouri, Tennessee, Texas	2,097,415	2,010,349	2,058,916	2,074,446	1,966,194
Michigan	3,166,295	3,460,027	3,907,944	3,979,033	3,755,141
Minnesota and Wisconsin	1,058,305	786,923	932,804	1,117,784	1,204,892
Ohio	8,871,503	6,339,546	7,243,587	7,668,758	8,515,460
Pennsylvania	15,935,874	15,245,046	17,594,174	18,912,128	18,690,843
West Virginia	3,434,892	3,008,418	3,389,754	3,520,853	3,561,764
Total	60,551,900	53,307,609	60,908,391	65,197,523	65,959,298
Beehive coke:					
Pennsylvania	895,358	383,979	561,777	879,596	609,649
Kentucky, Virginia, West Virginia	[2] 358,874	[3] 586,719	674,510	777,342	832,643
Total	1,254,232	970,698	1,236,287	1,656,938	1,442,292
Grand total	61,806,132	54,278,307	62,144,678	66,854,461	67,401,590

[1] Includes Massachusetts.
[2] Includes Utah.
[3] Excludes West Virginia.

Table 9.—Breeze recovered at coke plants in the United States in 1966, by States

State	Yield per ton of coal[1] (percent)	Produced		Used by producers—						Sold		On hand Dec. 31 (short tons)
		Short tons	Value	In steam plants		In agglomerating plants		For other industrial use		Short tons	Value	
				Short tons	Value	Short tons	Value	Short tons	Value			
Oven coke:												
Alabama	6.49	484,935	$3,535,363	(2)	(2)	177,543	$1,101,951	30,181	$203,542	210,587	$1,787,561	101,796
California, Colorado, Utah	5.49	279,039	2,447,967	---------	---------	183,627	1,628,035	19,658	160,781	50,118	509,235	24,364
Connecticut, Maryland, New Jersey, New York	4.64	566,428	3,477,666	369,296	$2,331,775	(2)	(2)	116,899	647,335	15,533	204,274	253,283
Illinois	5.80	214,330	1,617,822	(2)	(2)	126,443	1,094,141	12,720	87,135	(2)	(2)	25,426
Indiana	3.56	431,515	2,596,474	(2)	(2)	534,260	3,192,720	50,243	350,089	73,551	430,310	49,542
Kentucky, Missouri, Tennessee, Texas	5.99	164,550	1,329,736	(2)	(2)	(2)	(2)	(2)	(2)	120,338	942,180	12,781
Michigan	4.29	217,284	1,702,704	(2)	(2)	(2)	(2)	(2)	(2)	76,402	632,789	18,731
Minnesota and Wisconsin	5.23	82,314	446,901	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	34,928
Ohio	4.52	546,797	3,858,696	48,754	430,198	53,284	390,219	67,096	427,897	369,706	2,516,229	99,513
Pennsylvania	3.05	819,437	5,169,270	80,837	451,277	528,820	3,432,837	85,557	494,195	102,717	713,779	281,418
West Virginia	3.97	205,731	1,234,348	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	2,931
Undistributed	--------	---------	---------	145,527	925,386	268,790	1,778,596	122,903	776,265	116,889	716,320	---------
Total 1966	4.27	4,012,360	27,416,947	644,414	4,138,636	1,872,767	12,618,499	505,257	3,147,239	1,135,841	8,452,677	[3]904,713
At merchant plants	5.93	521,447	4,215,829	124,639	1,197,074	---------	---------	118,030	718,765	267,701	2,291,725	120,656
At furnace plants	4.10	3,490,913	23,201,118	519,775	2,941,562	1,872,767	12,618,499	387,227	2,428,474	868,140	6,160,952	784,057
Total 1965	4.36	4,037,264	27,887,455	641,572	4,146,641	1,744,481	11,421,995	427,276	2,769,952	1,270,067	9,839,966	[3]1,058,852
Beehive coke:												
Pennsylvania	8.00	31,481	41,078	---------	---------	---------	---------	---------	---------	31,481	41,186	626
Kentucky, Virginia, West Virginia	2.70	4,714	26,094	---------	---------	---------	---------	---------	---------	4,714	26,094	200
Total:												
1966	6.38	36,195	67,172	---------	---------	---------	---------	---------	---------	36,195	67,280	826
1965	1.65	43,240	86,540	---------	---------	---------	---------	---------	---------	42,211	84,659	350

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[1] Calculated by dividing production by coal carbonized at plants actually recovering breeze.
[2] Included with "Undistributed" to avoid disclosing individual company confidential data.
[3] Includes some breeze resulting from the screening of coke at blast furnaces.

Table 10.—Oven- and beehive-coke breeze used and sold in the United States, by use

(Short tons)

Year	Used by producers— In steam plants	In agglomerating plants	For other industrial use	Sold	Average value per ton
1957–59 (average)	1,612,547	796,390	447,171	1,042,308	$7.22
1963	609,518	1,794,566	388,499	984,429	7.17
1964	632,391	1,763,660	434,015	1,115,690	7.44
1965	641,572	1,744,481	427,276	1,312,278	7.56
1966	644,414	1,872,767	505,257	1,172,036	7.27

Table 11.—Apparent consumption of coke in the United States

(Short tons)

Year	Total production	Imports	Exports	Net change in stocks	Apparent U.S. consumption[1]	Consumption: In iron furnaces[2] Quantity	Percent	All other purposes Quantity	Percent
1957–59 (average)	61,806,132	120,908	558,428	+782,665	60,585,947	54,140,391	89.4	6,445,556	10.6
1963	54,278,307	152,595	451,241	−1,021,880	55,001,541	48,869,609	88.9	6,131,932	11.1
1964	62,144,678	103,286	523,695	−913,039	62,637,308	57,063,389	91.1	5,573,919	8.9
1965	66,854,461	89,620	833,668	+731,054	65,379,359	59,072,192	90.4	6,307,167	9.6
1966	67,401,590	95,761	1,102,166	+375,822	66,019,363	59,636,608	90.3	6,382,755	9.7

[1] Production plus imports minus exports, plus or minus net change in stocks.
[2] American Iron and Steel Institute; figures include coke consumed in manufacturing ferroalloys.

Table 12.—Coke and coking coal consumed per short ton of pig iron and ferroalloys produced in the United States

Year	Coke per short ton of pig iron and ferroalloys[1] (pounds)	Yield of coke from coal (percent)	Coking coal per short ton of pig iron and ferroalloys (pounds calculated)
1957–59 (average)	1,634.4	70.0	2,334.9
1963	1,350.5	69.5	1,943.2
1964	1,323.6	69.6	1,901.7
1965	1,329.5	70.1	1,896.6
1966	1,300.6	69.9	1,860.7

[1] American Iron and Steel Institute; consumption per ton of pig iron only, excluding furnaces making ferroalloys, was 1,617.0 in 1957–59 (average); 1,338.1 in 1963; 1,310.0 in 1964; 1,312.0 in 1965; and 1,282.0 in 1966.

Table 13.—Oven coke produced in the United States, used by producers, and sold in 1966, by States

State	Produced		Used by producing companies				Commercial sales	
			In blast furnaces		For other purposes [1]		To blast-furnace plants	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Alabama	5,409,254	$92,636,320	4,004,034	$59,821,545	141,577	$3,960,204	286,645	$5,173,598
California, Colorado, Utah	3,218,244	76,232,106	2,952,043	71,984,583	24,131	501,894	---------	---------
Connecticut, Maryland, New Jersey, New York	8,639,712	147,543,568	7,010,261	113,636,815	47,024	974,693	928,670	16,153,277
Illinois	2,576,961	51,671,535	2,445,515	48,170,347	78,342	2,492,656	(2)	(2)
Indiana	8,420,833	144,979,364	7,742,354	126,835,949	16,966	284,513	(2)	(2)
Kentucky, Missouri, Tennessee, Texas	1,966,194	37,916,366	(2)	(2)	(2)	(2)	(2)	(2)
Michigan	3,755,141	64,266,379	(2)	(2)	163,505	4,951,765	(2)	(2)
Minnesota and Wisconsin	1,204,892	25,728,395	(2)	(2)	(2)	(2)	(2)	(2)
Ohio	8,515,460	146,305,170	7,335,821	120,585,819	223,994	4,595,683	(2)	(2)
Pennsylvania	18,690,843	295,279,428	17,782,430	276,795,496	19,223	327,251	446,825	7,443,219
West Virginia	3,561,764	61,622,739	3,117,500	54,909,322	1,869	35,960	(2)	(2)
Undistributed	---------	---------	4,362,089	67,297,229	64,318	2,063,714	1,830,032	28,245,924
Total 1966	65,959,298	1,144,181,370	56,752,047	940,037,105	780,949	20,188,333	3,492,172	57,016,018
At merchant plants	6,376,689	149,440,829	---------	---------	259,469	6,461,778	2,604,111	42,100,515
At furnace plants	59,582,609	994,740,541	56,752,047	940,037,105	521,480	13,726,555	888,061	14,915,503
Total 1965	65,197,523	1,100,943,787	55,396,843	892,185,826	992,939	22,835,593	3,659,660	60,243,433

State	Commercial sales—Continued							
	To foundries		To other industrial plants [3]		For residential heating		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Alabama	560,188	$17,004,727	297,495	$4,893,751	11,850	$153,360	1,156,178	$27,225,436
California, Colorado, Utah	(2)	(2)	(2)	(2)	(2)	(2)	190,973	3,365,355
Connecticut, Maryland, New Jersey, New York	373,387	11,856,254	122,213	2,256,480	57,455	1,044,576	1,481,725	31,310,587
Illinois	---------	---------	(2)	(2)	(2)	(2)	32,321	525,168
Indiana	(2)	(2)	(2)	(2)	8,232	118,454	614,129	17,280,634
Kentucky, Missouri, Tennessee, Texas	(2)	(2)	70,364	1,303,597	(2)	(2)	1,168,295	20,942,140
Michigan	(2)	(2)	(2)	(2)	(2)	(2)	551,767	15,265,656
Minnesota and Wisconsin	(2)	(2)	(2)	(2)	(2)	(2)	591,123	17,221,525
Ohio	(2)	(2)	190,629	2,997,278	(2)	(2)	927,625	20,563,494
Pennsylvania	221,991	7,130,341	192,601	3,180,484	5,590	98,359	867,007	17,852,403
West Virginia	---------	---------	80,433	1,011,093	(2)	(2)	432,748	6,528,346
Undistributed	1,846,300	59,330,370	453,990	8,150,253	29,001	535,349	---------	---------
Total 1966	3,001,866	95,321,692	1,407,725	23,792,936	112,128	1,950,098	8,013,891	178,080,744
At merchant plants	2,754,309	87,358,358	689,472	12,666,118	107,067	1,844,402	6,154,959	143,969,393
At furnace plants	247,557	7,963,334	718,253	11,126,818	5,061	105,696	1,858,932	34,111,351
Total 1965	2,906,258	89,909,586	1,361,105	22,339,959	138,800	2,376,102	8,065,823	174,869,080

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[1] Comprises 376,043 tons valued at $12, 325, 975 used in foundries; 404, 906 tons valued at $7,862,358 for other purposes.

[2] Included with "Undistributed" to avoid disclosing individual company confidential data.

[3] Includes small amount to water-gas plants.

Table 14.—Beehive coke produced in the United States, used by producers, and sold in 1966, by States

State	Produced		Used by producing companies				Commercial sales	
			In blast furnaces		For other purposes		To blast-furnace plants	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Pennsylvania	609,649	$8,238,380	(1)	(1)	-----	-----	496,169	$5,911,526
Kentucky, Virginia, West Virginia	832,643	13,628,964	-----	-----	-----	-----	474,499	7,357,694
Total:								
1966	1,442,292	21,867,344	(1)	(1)	-----	-----	970,668	13,269,220
1965	1,656,938	24,812,638	(1)	(1)	-----	-----	1,141,974	16,609,949

State	Commercial sales—Continued							
	To foundries		To other industrial plants		For residential heating		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
Pennsylvania	10,165	$152,307	80,707	$1,087,762	8,163	$96,758	595,204	$7,248,353
Kentucky, Virginia, West Virginia	2,148	36,510	355,163	6,221,747	(2)	(2)	831,810	13,615,951
Total:								
1966	12,313	188,817	435,870	7,309,509	8,163	96,758	1,427,014	20,864,304
1965	10,784	164,644	487,131	7,852,156	16,825	183,285	1,656,714	24,810,034

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[1] Combined with coke sold "To blast furnace plants" to avoid disclosing individual company confidential data.

[2] Combined with coke sold "To foundries" to avoid disclosing individual company confidential data.

Table 15.—Distribution of oven and beehive coke and breeze in 1966 [1]

(Short tons)

Consuming State	Coke					Breeze
	To blast-furnace plants	To foundries	To other industrial plants	For residential heating	Total	
Alabama	3,750,525	267,332	111,755	5,783	4,135,395	329,029
Arizona	-----	858	-----	-----	858	44,995
Arkansas	-----	2,476	1,536	-----	4,012	164
California	1,256,552	56,017	37,379	42	1,349,990	65,502
Colorado	694,513	12,733	31,015	4	738,265	75,555
Connecticut	-----	26,508	43,211	6,087	75,806	31,437
Delaware	-----	-----	512	-----	512	396
Florida	-----	2,441	31,065	193	33,699	12,174
Georgia	-----	16,034	2,394	1,309	19,737	605
Idaho	-----	175	136,034	-----	136,209	14,783
Illinois	4,602,105	260,679	77,931	5,664	4,946,379	302,548
Indiana	7,388,007	177,330	86,488	7,742	7,659,567	629,363
Iowa	-----	99,795	1,598	396	101,789	79
Kansas	-----	13,028	586	-----	13,614	4,718
Kentucky	904,901	25,287	210,044	12,778	1,153,010	44,997
Louisiana	-----	2,083	64,761	145	66,989	1,140
Maine	-----	1,060	9,835	1,237	12,132	-----
Maryland	3,679,667	20,930	5,845	-----	3,706,442	135,366
Massachusetts	-----	43,837	583	12,815	57,235	-----
Michigan	4,286,473	813,312	156,617	1,908	5,258,310	175,013
Minnesota	360,335	25,289	13,167	2,160	400,951	35,299
Mississippi	-----	654	206	-----	860	278
Missouri	-----	26,349	22,208	-----	48,557	479
Montana	-----	1,133	42,214	-----	43,347	16,994
Nebraska	-----	5,182	9,037	-----	14,219	-----
New Hampshire	-----	1,855	-----	1,076	2,931	-----
New Jersey	-----	74,746	62,881	23,912	161,539	51,116
New Mexico	-----	-----	361	33	394	119
New York	4,044,325	186,239	113,769	10,965	4,355,298	352,565
North Carolina	-----	17,025	16,325	1,102	34,452	24,210
North Dakota	-----	357	2,787	-----	3,144	-----
Ohio	10,134,824	399,873	228,495	2,971	10,766,163	446,469
Oklahoma	-----	4,764	2	-----	4,766	1,576
Oregon	-----	6,335	14,229	-----	20,564	7,207
Pennsylvania	14,986,547	181,224	276,119	13,458	15,457,348	761,631
Rhode Island	-----	11,177	550	885	12,612	-----
South Carolina	-----	12,068	20,173	262	32,503	9,485
South Dakota	-----	436	-----	24	460	-----
Tennessee	-----	79,435	179,102	1,085	259,622	145,501
Texas	836,520	85,017	22,665	38	944,240	69,839
Utah	1,000,978	11,269	25,890	-----	1,038,137	70,220
Vermont	-----	3,800	37	665	4,502	-----
Virginia	65,353	70,978	76,899	39	213,269	2,298
Washington	-----	4,068	4,309	32	8,409	4,173
West Virginia	2,945,516	9,234	19,670	-----	2,974,420	254,734
Wisconsin	-----	183,348	1,607	4,745	189,700	33
Wyoming	-----	-----	3,879	-----	3,879	92
Total	60,937,141	3,243,770	2,165,770	119,555	66,466,236	4,122,182
Exported	277,746	146,452	82,731	736	507,665	72,292
Grand total	61,214,887	3,390,222	2,248,501	120,291	66,973,901	4,194,474

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[1] Based upon reports from producers showing destination and principal end use of coke used and sold. Does not include imported coke which totaled 95,761 tons in 1966.

Table 16.—Producers. stocks of coke and breeze in the United States on Dec. 31, in 1966, by States

(Short tons)

State	Coke				Breeze
	Blast furnace	Foundry	Residential heating and other	Total	
Oven coke:					
Alabama	442,913	15,746	20,794	479,453	101,796
California, Colorado, Utah	269,355	-----	-----	269,355	24,364
Connecticut, Maryland, New Jersey, New York	462,642	19,617	26,020	508,279	253,283
Illinois	99,034	-----	210	99,244	25,426
Indiana	217,152	10,503	6,251	233,906	49,542
Kentucky, Missouri, Tennessee, Texas	55,650	7,248	22,352	85,250	12,781
Michigan	54,539	1,875	50	56,464	18,731
Minnesota and Wisconsin	52,487	23,566	15,940	91,993	34,928
Ohio	247,606	6,165	8,025	261,796	99,513
Pennsylvania	859,779	42,787	9,964	912,530	281,418
West Virginia	79,545	-----	-----	79,545	2,931
Total 1966	2,840,702	127,507	109,606	3,077,815	904,713
At merchant plants	38,938	88,341	87,926	215,205	120,656
At furnace plants	2,801,764	39,166	21,680	2,862,610	784,057
Total 1965	2,450,554	110,161	140,681	2,701,396	1,058,852
Beehive coke:					
Pennsylvania	-----	-----	-----	-----	626
Kentucky, Virginia, West Virginia	332	30	591	953	200
Total:					
1966	332	30	591	953	826
1965	1,495	-----	55	1,550	350

Table 17.—Producers. month-end stocks of oven coke in the United States

(Short tons)

Month	At merchant plants		At furnace plants		Total	
	1965	1966	1965	1966	1965	1966
January	221,146	241,572	1,634,261	2,547,618	1,855,407	2,789,190
February	170,812	191,726	1,484,778	2,504,146	1,655,590	2,695,872
March	147,000	185,082	1,276,888	2,441,616	1,423,888	2,626,698
April	129,786	172,896	1,094,743	2,172,256	1,224,529	2,345,152
May	143,268	156,580	992,925	2,008,920	1,136,193	2,165,500
June	135,993	141,201	981,748	1,938,589	1,117,741	2,079,790
July	160,255	197,071	1,016,889	2,060,762	1,177,144	2,257,833
August	181,096	209,921	1,085,482	2,228,218	1,266,578	2,438,139
September	206,406	219,721	1,277,666	2,355,582	1,484,072	2,575,303
October	227,231	207,268	1,690,472	2,427,662	1,917,703	2,634,930
November	238,705	199,756	2,102,608	2,621,442	2,341,313	2,821,198
December	256,366	215,205	2,445,030	2,862,610	2,701,396	3,077,815

Table 18.—Average value per short ton of coke produced in the United States and average receipts per short ton from coke sold (commercial sales)

Year	Value per ton produced			Receipts per ton sold		
	Oven coke	Beehive coke	Total	Oven coke	Beehive coke	Total
1957–59 (average)	$18.14	$14.70	$18.07	$20.06	$14.67	$19.29
1963	17.58	15.38	17.54	21.08	15.48	20.53
1964	17.80	15.04	17.74	20.73	15.00	20.04
1965	16.89	14.97	16.84	21.68	14.96	20.63
1966	17.35	15.16	17.30	22.22	14.60	21.11

Table 19.—Average receipts per short ton of coke sold (commercial sales) in the United States, by uses

Year	Oven coke				Beehive coke			
	To blast-furnace plants	To foundries	To other industrial plants [1]	For residential heating	To blast-furnace plants	To foundries	To other industrial plants [1]	For residential heating
1957–59 (average)	$15.85	$29.39	$15.87	$17.15	$14.84	$16.72	$14.04	$11.64
1963	15.40	30.22	15.65	15.27	14.06	14.75	15.99	9.35
1964	15.54	30.43	15.79	16.28	14.34	17.54	15.68	7.83
1965	16.46	30.94	16.41	17.12	14.45	15.40	16.12	10.72
1966	16.33	31.75	16.90	17.39	13.58	15.30	16.77	11.97

[1] Includes water-gas plants.

Table 20.—U.S. imports for consumption of coke, by country and by customs district

	1964		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Country:						
North America:						
Canada	101,375	$1,330	87,724	$1,193	92,281	$1,464
Mexico	------	------	49	1	------	------
Total	101,375	1,330	87,773	1,194	92,281	1,464
South America: Guyana	40	1	------	------	------	------
Europe:						
Belgium-Luxembourg	220	7	------	------	------	------
Germany, West	1,651	171	1,733	176	3,099	286
Netherlands	------	------	114	9	70	9
Switzerland	------	------	------	------	311	31
Total	1,871	178	1,847	185	3,480	326
Grand total	103,286	1,509	89,620	1,379	95,761	1,790
Customs district:						
Buffalo	25,781	175	12,250	57	9,967	51
Dakota	------	------	------	------	79	2
Hawaii	220	7	330	11	495	16
Maine and New Hampshire	89	1	57	1	76	2
Michigan	57	1	108	3	57	1
Montana and Idaho	59,811	907	59,158	873	64,762	1,113
New Orleans	1,333	140	1,403	165	2,985	309
New York	------	------	114	9	------	------
Sabine	318	31	------	------	------	------
St. Lawrence	292	10	472	16	139	5
Vermont	47	1	51	1	32	(1)
Washington	15,338	236	15,677	243	17,169	291
Total	103,286	1,509	89,620	1,379	95,761	1,790

[1] Less than ½ unit.

Table 21.—U.S. exports of coke, by country and by customs district

	1964		1965		1966	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Country:						
North America:						
Canada	449,759	$8,268	603,248	$12,452	854,637	$18,165
Mexico	19,116	537	58,006	1,436	124,146	3,154
Panama	411	9	103	2	106	2
West Indies:						
Trinidad and Tobago	173	6	110	4	------	------
Other West Indies	90	3	446	27	31	1
Other North America	------	------	211	7	130	3
Total	469,549	8,823	662,124	13,928	979,050	21,325
South America:						
Argentina	10,098	288	12,420	222	------	------
Bolivia	------	------	89	2	134	2
Brazil	7,637	323	6,053	162	12,913	417
Chile	146	6	637	28	220	10
Ecuador	213	5	75	2	242	4
Peru	7,221	93	7,733	127	36	2
Venezuela	19,962	278	81,816	1,137	51,448	798
Total	45,277	993	108,823	1,680	64,993	1,233
Europe:						
Netherlands	------	------	75	7	35,996	307
Rumania	------	------	59,627	596	------	------
United Kingdom	139	3	------	------	673	13
Other	280	7	------	------	------	------
Total	419	10	59,702	603	36,669	320
Africa:						
Angola	------	------	------	------	19	(1)
Kenya	41	1	------	------	------	------
Libya	------	------	120	3	176	43
Nigeria	------	------	114	12	607	10
Tunisia	------	------	------	------	18,510	423
Total	41	1	234	15	19,312	476
Asia:						
India	193	8	733	16	1,420	33
Japan	6,762	195	581	10	275	15
Philippines	1,189	34	980	31	------	------
Other	22	1	141	16	239	10
Total	8,166	238	2,435	73	1,934	58
Oceania:						
Australia	243	28	350	8	193	3
Other	------	------	------	------	15	(1)
Total	243	28	350	8	208	3
Grand total	523,695	10,093	833,668	16,307	1,102,166	23,415
Customs district:						
Buffalo	148,097	3,151	403,120	8,305	499,695	10,784
Chicago	105,163	1,524	27,541	365	76,210	1,088
Dakota	9,023	257	15,350	438	23,290	689
Duluth and Superior	2,441	65	1,178	32	3,043	63
Galveston	470	10	1,289	45	------	------
Laredo	17,992	500	57,301	1,416	123,378	3,127
Maryland	298	11	1,311	30	766	18
Michigan	168,081	2,868	127,932	2,715	186,505	4,087
Mobile	15,377	238	17,792	290	909	54
Montana and Idaho	------	------	1,169	43	710	20
New Orleans	866	21	525	29	603	42
New York	17,309	507	2,269	67	4,765	167
Oregon	6,965	222	550	9	------	------
Philadelphia	13,358	277	145,255	1,863	70,952	1,255
Sabine	------	------	3,306	85	------	------
San Francisco	------	------	------	------	35,694	259
St. Lawrence	13,130	273	19,850	357	50,420	975
San Diego	960	31	494	14	629	20
Washington	4,003	134	6,628	187	14,016	430
Other districts	162	4	808	17	10,581	337
Total	523,695	10,093	833,668	16,307	1,102,166	23,415

[1] Less than ½ unit.

Table 22.—World production of oven and beehive coke (excluding breeze) by countries

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
North America:					
Canada [2]	4,022	4,281	4,343	4,369	4,426
Mexico	860	843	866	[r] 908	1,247
United States	51,910	54,278	62,145	66,854	67,402
South America:					
Argentina	383	347	497	508	[e] 507
Brazil	794	946	1,005	996	1,044
Chile	260	274	271	[r] 235	[e] 220
Colombia	397	441	463	480	356
Peru	44	[r] 42	[r] 29	[r] 30	39
Europe:					
Austria	1,824	1,801	1,773	[r] 1,706	1,625
Belgium	7,894	7,941	7,969	8,084	7,673
Bulgaria	9	141	[r] 519	808	[e] 827
Czechoslovakia	9,844	10,250	10,385	[r] 10,468	10,070
Finland	[e] [r] 14	[e] 11	[e] 11	35	42
France [3]	14,902	14,842	15,439	[r] 14,781	14,319
Germany:					
East [4]	1,136	1,149	1,155	[r] 1,159	[e] 1,213
West [5]	47,504	46,069	47,691	47,702	43,955
Hungary	721	728	733	708	712
Italy	4,769	5,065	5,162	6,324	7,281
Netherlands [3]	4,711	4,707	4,976	4,723	4,219
Norway	------	------	119	[r] 287	[e] 220
Poland	13,859	14,549	14,871	[r] 15,066	14,909
Rumania	1,233	1,258	1,263	1,251	1,216
Spain	3,018	3,034	2,832	3,154	3,082
Sweden	379	378	413	[r] 413	[e] 529
U.S.S.R. [3]	67,163	70,408	73,063	[r] 74,364	74,957
United Kingdom	17,430	17,408	18,982	19,159	18,051
Yugoslavia	1,135	1,112	1,200	[r] 1,271	1,353
Africa:					
Rhodesia, Southern	112	101	143	[e] 110	[3] 204
South Africa, Republic of	2,429	2,520	2,636	3,521	3,174
United Arab Republic (Egypt)	[e] 40	[e] 40	[e] 40	[r] 266	[e] 276
Asia:					
China, Mainland [e]	16,500	16,500	16,500	17,600	18,700
India	7,770	8,098	8,667	9,457	9,370
Iran [6]	14	[e] 22	[e] 22	[e] 28	[e] 28
Japan	12,729	[e] 13,300	[r] 15,098	16,536	18,775
Korea, North [e]	1,200	1,300	1,500	1,800	2,000
Taiwan	15	47	55	60	74
Turkey	565	907	947	1,370	1,235
Oceania:					
Australia	3,106	3,192	3,408	[e] 3,413	3,566
New Caledonia [e]	77	77	77	77	77
New Zealand	7	7	7	[r] 7	7
World total (estimate)	[r] 300,779	[r] 308,414	[r] 327,275	[r] 340,088	338,980

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled mostly from data available July 1967.

[2] Includes breeze and a negligible amount of gashouse coke.

[3] Including breeze.

[4] High-temperature coke from lignite.

[5] Including electrode coke but excluding a small amount of low-temperature coke.

[6] Year ended March 20 following that stated.

Table 23.—World production of gashouse, low- and medium-temperature coke (excluding breeze), by country [1]

(Thousand short tons)

Country [2]	1962	1963	1964	1965	1966 [p] [3]
North America:					
United States, retort, low- and medium-temperature	164	160	203	149	168
South America:					
Brazil	[e] 314	[e] 314	[e] 309	241	247
Chile	[e] [r] 95	109	91	[e] [r] 89	[e] 88
Uruguay	25	23	23	22	23
Europe:					
Austria	347	378	345	[r] 315	246
Czechoslovakia:					
Gashouse	571	497	[r] 337	354	[e] 342
Lignite	2,327	2,330	[r] 2,126	[r] 1,866	[e] 1,874
Denmark	461	453	386	[r] 290	322
Finland	[e] 164	[e] 171	[e] 149	121	127
France:					
Gashouse	272	152	67	22	15
Low-temperature	297	299	326	266	274
Germany:					
East:					
Gashouse [4]	3,441	3,596	3,746	[r] 3,537	[e] 3,583
Lignite	7,308	7,194	7,231	[r] 6,935	[e] 6,945
West:					
Gashouse	5,467	5,390	5,415	4,578	3,942
Lignite	661	661	657	637	599
Low-temperature	114	111	94	21	[e] 17
Greece	24	23	18	[r] 19	[e] 28
Hungary	559	535	517	[r] 565	[e] 579
Ireland	97	110	[r] 112	[e] 105	[e] 110
Italy	855	799	597	[r] 425	373
Luxembourg	40	40	31	[r] 14	[e] 11
Netherlands [5]	220	195	120	108	66
Norway	43	40	25	16	NA
Poland:					
Gashouse	1,194	1,274	1,312	[r] 1,398	[e] 1,433
Low-temperature	[e] 276	280	276	287	[e] 276
Portugal	34	28	11	[r] 14	[e] 17
Spain	256	219	198	97	78
Sweden	642	628	606	[r] 584	[e] 579
Switzerland	547	582	517	[r] 498	342
United Kingdom	10,886	10,938	9,900	8,691	8,024
Yugoslavia	20	19	19	[r] 15	20
Africa:					
Algeria [e]	77	66	[r] 44	[r] 39	28
South Africa, Republic of	122	139	148	178	194
United Arab Republic (Egypt) [e]	39	39	39	[r] 44	55
Asia:					
Hong Kong [5]	19	17	14	14	11
India:					
Gashouse	138	[r] 119	[r] 76	[r] 71	[e] 73
Low-temperature	2,313	2,525	[r] 2,436	2,811	[e] 2,425
Japan:					
Gashouse	3,807	3,719	4,102	4,045	4,093
Low-temperature [e]	83	83	77	77	72
Taiwan	105	209	216	224	209
Turkey:					
Gashouse	168	186	191	128	196
Low-temperature	93	87	87	79	79
Oceania:					
Australia [6]	853	778	776	[r] 709	[e] 717
New Zealand [7]	97	86	88	76	74
World total (estimate) [2]	[r] 50,110	[r] 50,020	[r] 48,450	[r] 45,150	43,340

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Gashouse coke unless otherwise specified. Data do not add to totals shown because of rounding.

[2] Production data for Ceylon, China, Malaysia, Mexico, Rumania, and U.S.S.R. are not available; estimates for these countries included in the total. A negligible amount is produced in Belgium, Canada, and Libya.

[3] Compiled mostly from data available July 1967.

[4] Includes high-temperature coke.

[5] Includes breeze.

[6] Year ended June 30 of year stated.

[7] Year ended March 31 of year following that stated.

Table 24.—Slot ovens completed and abondoned in the United States in 1966, by States

State	Plants in existence Dec. 31 [1]	Ovens			
		New	Abandoned during year [2]	In existence Dec. 31	Under construction Dec. 31
Alabama	7	------	------	1,443	78
California	1	------	------	315	------
Colorado	1	------	------	206	------
Connecticut	1	------	------	70	------
Illinois	6	------		568	------
Indiana	5	------	------	2,218	------
Kentucky	1	------	------	196	70
Maryland	1	------	------	757	------
Michigan	3	------	------	739	70
Minnestoa	2	------	------	180	------
Missouri	1	------	------	58	35
New Jersey	1	5	------	125	------
New York	3	------	------	855	50
Ohio	13	[3] 413	------	2,249	------
Pennsylvania	12	55	37	3,437	55
Tennessee	1	------	------	44	------
Texas	2	------	------	140	------
Utah	1	------	------	252	------
West Virginia	3	------	------	668	------
Wisconsin	1	------	------	200	------
Total 1966	66	473	37	14,720	358
At merchant plants	16	5	------	1,860	253
At furnace plants	50	468	37	12,860	105
Total 1965	65	------	282	14,357	130

[1] Excludes plants retired permanently during year.
[2] Includes ovens dismantled for rebuilding.
[3] These ovens, which were taken out of operation in 1962, were reactivated in 1966.

Table 25.—Number of slot ovens in the United States on Dec. 31, 1966, by States and kinds

State	Koppers	Koppers-Becker	Semet-Solvay	Wilputte	All others	Total
Alabama	510	560	180	130	[1] 63	1,443
California	----	315	----	----	----	315
Colorado	60	146	----	----	----	206
Connecticut	----	70	----	----	----	70
Illinois	----	238	----	330	----	568
Indiana	340	1,166	60	652	----	2,218
Kentucky	----	----	120	76	----	196
Maryland	----	757	----	----	----	757
Michigan	----	229	362	148	----	739
Minnesota	65	115	----	----	----	180
Missouri	18	----	----	----	[2] 40	58
New Jersey	60	65	----	----	----	125
New York	135	236	120	364	----	855
Ohio	844	586	122	697	----	2,249
Pennsylvania	678	1,546	88	1,125	----	3,437
Tennessee	----	----	24	20	----	44
Texas	----	140	----	----	----	140
Utah	----	252	----	----	----	252
West Virginia	154	514	----	----	----	668
Wisconsin	100	----	100	----	----	200
Total 1966	2,964	6,935	1,176	3,542	103	14,720
At merchant plants	403	430	624	363	40	1,860
At furnace plants	2,561	6,505	552	3,179	63	12,860
Total 1965	2,764	7,008	1,176	3,306	103	14,357

[1] Otto.
[2] Simon-Carves.

Table 26.—Age of slot ovens in the United States on Dec. 31, 1966 [1]

Age	At merchant plants		At furnace plants		Total	
	Number of ovens	Percent of total	Number of ovens	Percent of total	Number of ovens	Percent of total
Under 5 years	5	0.3	306	2.4	311	2.1
From 5 to 10 years	78	4.2	1,724	13.4	1,802	12.3
From 10 to 15 years	125	6.7	2.833	22.0	2,958	20.1
From 15 to 20 years	89	4.8	2,838	22.1	2,927	19.9
From 20 to 25 years	120	6.4	2,290	17.8	2.410	16.4
From 25 to 30 years	163	8.8	1,173	9.1	1,336	9.1
From 30 to 35 years	23	1.2	308	2.4	331	2.2
From 35 to 40 years	145	7.8	111	0.9	256	1.7
40 years and over	1,112	59.8	1,277	9.9	2,389	16.2
Total	1,860	100.0	12,860	100.0	14,720	100.0

[1] Age dates from first entry into operation or from last date of rebuilding.

Table 27.—Beehive ovens completed and abandoned in the United States in 1966, by States

State	Plants in existence Dec. 31	Ovens			
		New or rebuilt	Abandoned during year	In existence Dec. 31	Under construction Dec. 31
Kentucky	1	------	------	200	------
Pennsylvania	7	[1]41	957	1,284	------
Virginia	6	[1]13	------	772	7
West Virginia	1	------	142	132	------
Total:					
1966	15	54	[2]1,099	2,388	7
1965	21	80	1,718	3,433	------

[1] Reactivated after break in service.
[2] Idle and not expected to resume production; removed from list of available ovens.

Table 28.—Quantity and value at ovens of coal carbonized in the United States in 1966, by States

State	Coal carbonized			Coal per ton of coke	
	Short tons	Value		Short tons	Value
		Total	Average		
Oven coke:					
Alabama	7,473,576	$73,549,399	$9.84	1.38	$13.60
California, Colorado, Utah	5,084,915	64,468,085	12.68	1.58	20.03
Connecticut, Maryland, New Jersey, New York	12,201,844	140,430,816	11.51	1.41	16.26
Illinois	3,692,815	34,261,521	9.28	1.43	13.30
Indiana	12,113,076	125,497,469	10.36	1.44	14.90
Kentucky, Missouri, Tennessee, Texas	2,748,248	25,003,101	9.10	1.40	12.72
Michigan	5,068,304	51,392,911	10.14	1.35	13.69
Minnesota and Wisconsin	1,572,602	17,884,045	11.37	1.31	14.84
Ohio	12.105,983	108,144,786	8.93	1.42	12.70
Pennsylvania	26,795,071	238,647,890	8.91	1.43	12.77
West Virginia	5,181,024	39,990,482	7.72	1.45	11.23
Total 1966	94,037,458	919,270,505	9.78	1.43	13.94
At merchant plants	8,794,224	86,613,256	9.85	1.38	13.58
At furnace plants	85,243,234	832,657,249	9.77	1.43	13.98
Total 1965	92,593,237	880,889,392	9.51	1.42	13.51
Beehive coke:					
Pennsylvania	989,053	5,679,317	5.74	1.62	9.31
Kentucky, Virginia, West Virginia	1,379,823	7,360,670	5.33	1.66	8.83
Total:					
1966	2,368,876	13,039,987	5.50	1.64	9.03
1965	2,692,701	14,566,515	5.41	1.63	8.79

Table 29.—Bituminous coal carbonized in coke ovens in the United States, by months

(Short tons)

Month	1957–59 (average)			1965			1966		
	Slot	Beehive	Total	Slot	Beehive	Total	Slot	Beehive	Total
Jan.	7,974,200	220,300	8,194,500	7,961,600	284,800	8,246,400	7,377,300	161,200	7,538,500
Feb.	7,312,300	213,300	7,525,600	7,305,800	261,500	7,567,300	7,040,800	159,800	7,200,600
Mar.	8,125,900	251,200	8,377,100	8,147,900	311,800	8,459,700	7,987,600	187,900	8,175,500
Apr.	7,619,800	230,500	7,850,300	7,894,300	263,300	8,157,600	7,645,300	175,100	7,820,400
May	7,833,800	198,000	8,031,800	8,206,600	237,900	8,444,500	8,080,000	184,900	8,264,900
June	7,569,600	180,700	7,750,300	7,852,600	282,600	8,135,200	7,951,000	200,400	8,151,400
July	6,531,200	138,300	6,669,500	7,913,200	254,900	8,168,100	8,048,600	168,600	8,217,200
Aug.	5,892,900	139,900	6,032,800	7,867,700	266,000	8,133,700	8,083,700	237,500	8,321,200
Sept.	5,849,300	132,400	5,981,700	7,362,900	149,700	7,512,600	7,833,000	233,400	8,066,400
Oct.	6,152,600	127,100	6,279,700	7,337,000	128,400	7,465,400	7,974,800	230,500	8,205,300
Nov.	7,116,800	129,300	7,246,100	6,966,200	116,700	7,082,900	7,717,900	221,700	7,939,600
Dec.	7,842,200	144,300	7,986,500	7,270,200	135,100	7,405,300	7,783,000	207,900	7,990,900
Total	85,820,600	2,105,300	87,925,900	92,086,000	2,692,700	94,778,700	93,523,000	2,368,900	95,891,900

Table 30.—Anthracite carbonized at oven-coke plants in the United States, by months

(Short tons)

Month	1957–59 (average)	1963	1964	1965	1966
January	29,700	37,500	42,400	40,500	44,800
February	28,200	36,300	39,100	36,800	40,500
March	29,900	42,900	42,200	46,400	45,900
April	29,100	35,500	41,300	43,300	42,800
May	30,200	38,900	41,300	42,100	42,400
June	26,000	36,200	39,600	39,900	44,700
July	24,800	34,100	42,800	36,000	38,800
August	25,600	34,400	35,300	41,400	39,800
September	26,300	35,600	41,500	41,300	40,700
October	29,800	39,200	43,400	46,400	44,300
November	29,000	36,200	41,700	46,200	44,600
December	29,000	43,700	41,700	46,900	45,200
Total	337,600	450,500	492,300	507,200	514,500

Table 31.—Value of coal and products per short ton of coal carbonized in the United States

Year	Oven coke					Beehive coke	
		Value per ton of coal					
	Value of coal per ton	Coke produced	Breeze produced	Coal-chemical materials used or sold [1]	Total	Value of coal per ton	Value per ton of coal
1957–59 (average)	$9.90	$12.75	$0.31	$3.84	$16.90	$6.12	$8.76
1963	9.49	12.25	.33	3.33	15.91	5.14	9.26
1964	9.28	12.43	.30	3.34	16.07	5.32	9.18
1965	9.51	11.89	.30	3.36	15.55	5.41	9.21
1966	9.78	12.17	.29	3.29	15.75	5.50	9.23

[1] Includes value of surplus gas used and tar and pitch-of-tar burned.

Table 32.—Average value per short ton of coal carbonized at oven-coke plants in the United States, by States

State	1957–59 (average)	1963	1964	1965	1966
Alabama	$8.13	$8.29	$7.75	$9.74	$9.84
California, Colorado, Utah	12.24	12.86	12.59	12.46	12.68
Connecticut, Maryland, New Jersey, New York	[1] 11.87	11.59	11.24	11.10	11.51
Illinois	10.65	9.35	9.23	9.04	9.28
Indiana	11.23	10.60	10.02	10.08	10.36
Kentucky, Missouri, Tennessee, Texas	10.60	9.06	9.35	8.97	9.10
Michigan	10.22	9.87	9.86	9.85	10.14
Minnesota and Wisconsin	11.46	11.02	10.73	10.67	11.37
Ohio	9.79	8.72	9.00	8.86	8.93
Pennsylvania	8.56	8.45	8.09	8.54	8.91
West Virginia	7.74	7.47	7.66	7.74	7.72
Average	9.90	9.49	9.28	9.51	9.78
Value of coal per ton of coke	14.08	13.62	13.29	13.51	13.94

[1] Includes Massachusetts.

Table 33.—Washed and unwashed coal carbonized in the United States in 1966 by States in which used

(Short tons)

State	Bituminous coal			Anthracite	Grand total
	Washed	Unwashed	Total		
Oven coke:					
Alabama	7,426,571	-----	7,426,571	47,005	7,473,576
California, Colorado, Utah	5,006,603	78,312	5,084,915	-----	5,084,915
Connecticut, Maryland, New Jersey, New York	10,362,756	1,781,186	12,143,942	57,902	12,201,844
Illinois	3,152,451	531,923	3,684,374	8,441	3,692,815
Indiana	12,038,754	14,530	12,053,284	59,792	12,113,076
Kentucky, Missouri, Tennessee Texas	2,325,555	364,813	2,690,368	57,880	2,748,248
Michigan	4,954,255	-----	4,954,255	114,049	5,068,304
Minnesota and Wisconsin	1,534,196	-----	1,534,196	38,406	1,572,602
Ohio	11,839,238	175,247	12,014,485	91,498	12,105,983
Pennsylvania	26,612,199	143,344	26,755,543	39,528	26,795,071
West Virginia	5,181,024	-----	5,181,024	-----	5,181,024
Total 1966	90,433,602	3,089,355	93,522,957	514,501	94,037,458
At merchant plants	8,365,556	14,530	8,380,086	414,138	8,794,224
At furnace plants	82,068,046	3,074,825	85,142,871	100,363	85,243,234
Total 1965	88,889,738	3,196,292	92,086,030	507,207	92,593,237
Beehive coke:					
Pennsylvania	840,673	148,380	989,053	-----	989,053
Kentucky, Virginia, West Virginia	1,379,823	-----	1,379,823	-----	1,379,823
Total:					
1966	2,220,496	148,380	2,368,876	-----	2,368,876
1965	2,178,697	514,004	2,692,701	-----	2,692,701

Table 34.—Washed and unwashed bituminous coal carbonized in the United States

(Short tons)

Year	Washed coal			Unwashed coal			Total coal carbonized	Percent of total washed
	In slot ovens	In beehive ovens	Total	In slot ovens	In beehive ovens	Total		
1957–59 (average)	66,219,149	1,429,859	67,649,008	19,601,434	675,484	20,276,918	87,925,926	76.9
1963	71,065,392	1,423,677	72,489,069	4,954,137	188,904	5,143,041	77,632,110	93.4
1964	82,442,866	1,812,550	84,255,416	4,289,295	212,865	4,502,160	88,757,576	94.9
1965	88,889,738	2,178,697	91,068,435	3,196,292	514,004	3,710,296	94,778,731	96.1
1966	90,433,602	2,220,496	92,654,098	3,089,355	148,380	3,237,735	95,891,833	96.6

Table 35.—Average volatile content of bituminous coal carbonized by oven-coke plants in the United States

Year	High		Medium		Low		Total	
	Short tons	Volatile content (percent)	Short tons	Volatile content (percent)	Short tons	Volatile content (percent)	Short tons	Volatile content (percent)
1957–59 (average)	56,499,763	34.9	11,447,103	26.0	17,873,717	17.7	85,820,583	30.1
1963	49,825,740	35.4	10,657,200	26.1	15,536,589	17.4	76,019,529	30.4
1964	58,011,780	35.2	11,151,584	25.9	17,568,797	17.5	86,732,161	30.4
1965	61,725,145	35.2	11,791,203	25.9	18,569,682	17.8	92,086,030	30.5
1966	63,061,228	34.6	10,395,206	26.2	20,066,523	17.8	93,522,957	30.1

Table 36.—Coal received by oven-coke plants in the United States in 1966, by consuming State and volatile content [1]

(Short tons)

Consuming State	High-volatile		Medium-volatile		Low-volatile		Total coal receipts
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	
Alabama	984,211	13.2	5,725,073	76.7	753,323	10.1	7,462,607
California, Colorado, Utah	4,221,488	81.4	855,272	16.5	109,393	2.1	5,186,153
Connecticut, Maryland, New Jersey, New York	8,197,629	67.0	580,405	4.7	3,520,617	28.3	12,298,651
Illinois	2,817,042	76.8	56,088	1.5	796,344	21.7	3,669,474
Indiana	6,811,224	58.2	288,311	2.5	4,594,681	39.3	11,694,216
Kentucky, Missouri, Tennessee, Texas	1,425,386	52.6	519,850	19.2	764,031	28.2	2,709,267
Michigan	3,290,010	66.2	138,417	2.8	1,540,558	31.0	4,968,985
Minnesota and Wisconsin	643,532	44.9	122,801	8.6	666,704	46.5	1,433,037
Ohio	10,015,834	77.2	229,857	1.8	2,733,831	21.0	12,979,522
Pennsylvania	19,252,834	71.3	1,711,214	6.4	6,023,447	22.3	26,987,495
West Virginia	4,085,652	82.1	91,628	1.9	797,485	16.0	4,974,765
Total 1966	61,744,842	65.5	10,318,916	10.9	22,300,414	23.6	94,364,172
At merchant plants	4,231,755	48.8	1,196,246	13.8	3,241,693	37.4	8,669,694
At furnace plants	57,513,087	67.1	9,122,670	10.6	19,058,721	22.3	85,694,478
Total 1965	61,875,999	66.0	12,095,060	12.9	19,849,329	21.1	93,820,388

[1] Volatile matter on moisture-free basis: High-volatile—over 31 percent; medium-volatile—22–31 percent; and low-volatile—14–22 percent.

Table 37.—Origin of coal received by oven-coke plants in the United States in 1966, by producing county and volatile content

(Short tons)

State and county [1] where coal was produced	Volatile content [2] High	Medium	Low	Total
Alabama:				
Bibb	105,039	-------	-------	105,039
Jefferson	365,755	5,353,419	-------	5,719,174
Walker	31,032	-------	-------	31,032
Colorado:				
Gunnison	488,016	-------	-------	488,016
Las Animas	1,216,065	-------	-------	1,216,065
Moffat	9,829	-------	-------	9,829
Pitkin	-------	687,510	-------	687,510
Illinois:				
Franklin	1,340,272	-------	-------	1,340,272
Jefferson	277,131	-------	-------	277,131
Saline	245,119	-------	-------	245,119
Kentucky:				
Floyd	2,639,046	-------	-------	2,639,046
Harlan	3,002,877	-------	-------	3,002,877
Letcher	29,165	-------	-------	29,165
Pike	4,596,178	-------	-------	4,596,178
New Mexico:				
Colfax	352,634	-------	-------	352,634
Oklahoma:				
Haskell	-------	252,424	1,109	253,533
La Flore	-------	-------	147,276	147,276
Roger	141,066	-------	-------	141,066
Pennsylvania:				
Anthracite	-------	-------	515,168	515,168
Bituminous:				
Allegheny	2,843,285	-------	-------	2,843,285
Cambria	-------	335,405	2,468,702	2,804,107
Fayette	161,900	20,312	-------	182,212
Greene	5,924,462	-------	-------	5,924,462
Indiana	56	-------	-------	56
Somerset	-------	-------	722,295	722,295
Washington	12,115,599	-------	-------	12,115,599
Westmoreland	2,440,278	-------	-------	2,440,278
Utah:				
Carbon	2,129,340	-------	-------	2,129,340
Virginia:				
Buchanan	236,716	556,898	980,001	1,773,615
Dickinson	494,186	-------	-------	494,186
Russell	662,922	773,392	-------	1,436,314
Tazewell	-------	-------	243,456	243,456
Wise	449,893	286,884	-------	736,777
West Virginia:				
Barbour	1,756	-------	-------	1,756
Boone	1,500,707	-------	43,605	1,544,312
Fayette	2,406,737	55,843	1,175,438	3,638,018
Greenbrier	-------	72,114	-------	72,114
Kanawha	1,417,073	-------	-------	1,417,073
Logan	4,932,841	-------	-------	4,932,841
McDowell	-------	75,332	10,317,766	10,393,098
Marion	4,181,994	-------	-------	4,181,994
Mercer	-------	-------	1,082,283	1,082,283
Mingo	1,768,606	-------	17,188	1,785,794
Monongalia	1,203,270	-------	-------	1,203,270
Nicholas	839,078	1,267,064	-------	2,106,142
Raleigh	-------	111,762	1,995,678	2,107,440
Wayne	374,303	-------	-------	374,303
Webster	202	30,050	-------	30,252
Wyoming	820,414	440,507	2,590,449	3,851,370
Total	61,744,842	10,318,916	22,300,414	94,364,172

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[1] As defined by the U.S. Coal Commission of 1922.

[2] Volatile matter on moisture-free basis: High-volatile—over 31 percent; medium-volatile—22-31 percent; and low-volatile—14-22 percent.

Table 38.—Origin of coal received by oven-coke plants in the United States in 1966, by States

(Short tons)

Consuming State	Coal produced in—					
	Alabama	Colorado	Illinois	Kentucky	New Mexico	Oklahoma
Alabama	5,687,610	------	------	------	------	------
California, Colorado, Utah	------	2,401,420	25,604	------	352,634	49,049
Connecticut, Maryland, New Jersey, New York	------	------	------	1,541,015	------	------
Illinois	------	------	1,331,500	1,054,144	------	------
Indiana	------	------	505,418	3,973,327	------	------
Kentucky, Missouri, Tennessee, Texas	167,635	------	------	------	------	492,826
Michigan	------	------	------	1,539,283	------	------
Minnesota and Wisconsin	------	------	------	------	------	------
Ohio	------	------	------	1,710,949	------	------
Pennsylvania	------	------	------	349,878	------	------
West Virginia	------	------	------	98,670	------	------
Total 1966	5,855,245	2,401,420	1,862,522	10,267,266	352,634	541,875
At merchant plants	626,885	------	------	------	------	------
At furnace plants	5,228,360	2,401,420	1,862,522	10,267,266	352,634	541,875
Total 1965	5,907,727	2,274,358	1,463,451	9,365,238	402,121	604,207

	Coal produced in—Continued				Total
	Pennsylvania	Utah	Virginia	West Virginia	
Alabama	45,947	------	471,430	1,257,620	7,462,607
California, Colorado, Utah	------	2,129,340	------	228,106	5,186,153
Connecticut, Maryland, New Jersey, New York	4,007,066	------	651,040	6,099,530	12,298,651
Illinois	9,580	------	79,458	1,194,792	3,669,474
Indiana	55,821	------	1,006,052	6,153,598	11,694,216
Kentucky, Missouri, Tennessee, Texas	54,426	------	117,051	1,877,329	2,709,267
Michigan	119,244	------	130,933	3,179,525	4,968,985
Minnesota and Wisconsin	45,269	------	320,984	1,066,784	1,433,037
Ohio	4,974,621	------	553,252	5,740,700	12,979,522
Pennsylvania	14,637,725	------	1,223,571	10,776,321	26,987,495
West Virginia	3,597,763	------	104,799	1,173,533	4,974,765
Total 1966	27,547,462	2,129,340	4,658,570	38,747,838	94,364,172
At merchant plants	570,496	------	779,463	6,692,850	8,669,694
At furnace plants	26,976,966	2,129,340	3,879,107	32,054,988	85,694,478
Total 1965	28,398,105	2,516,155	4,255,894	38,633,132	93,820,388

Table 39.—Quantity and percentage of captive coal received by oven-coke plants in the United States

(Short tons)

Year	At merchant plants			At furnace plants			Total		
	Total coal received	Captive coal		Total coal received	Captive coal		Total coal received	Captive coal	
		Quantity	Percent		Quantity	Percent		Quantity	Percent
1957–59 (average)	10,270,085	4,523,385	44.0	76,660,207	48,941,264	63.8	86,930,292	53,464,649	61.5
1963	8,018,890	3,642,257	45.4	69,104,327	43,502,197	63.0	77,123,217	47,144,454	61.1
1964	9,207,668	3,172,241	34.5	81,128,745	53,265,248	65.7	90,336,413	56,437,489	62.5
1965	9,166,787	3,228,861	35.2	84,653,601	55,228,352	65.2	93,820,388	58,457,213	62.3
1966	8,669,694	3,005,516	34.7	85,694,478	54,155,238	63.2	94,364,172	57,160,754	60.6

Table 40.—Month-end stocks of bituminous coal at oven-coke plants in the United States

(Short tons)

Month	1962	1963	1964	1965	1966
January	9,778,578	7,338,642	7,780,399	9,517,255	10,136,667
February	9,407,933	7,232,935	7,899,711	9,224,923	9,969,656
March	9,404,688	6,595,093	8,298,576	9,424,025	11,318,115
April	9,431,344	6,883,100	8,410,773	9,575,957	8,639,627
May	9,668,244	7,647,971	8,840,881	9,749,102	8,623,557
June	10,360,167	8,202,228	9,375,431	9,970,141	9,078,022
July	8,256,863	6,386,167	7,467,186	7,743,950	6,644,597
August	8,276,856	6,918,806	7,969,248	8,501,212	7,264,669
September	8,179,859	7,290,283	8,643,158	8,252,813	7,620,829
October	8,622,170	7,911,761	9,346,389	9,107,234	8,179,674
November	8,849,458	8,054,381	9,872,705	9,742,584	8,567,898
December	8,305,379	8,014,046	10,081,035	10,505,707	9,206,205

Table 41.—Month-end stocks of anthracite at oven-coke plants in the United States

(Short tons)

Month	1962	1963	1964	1965	1966
January	85,037	99,088	82,485	103,820	121,480
February	72,282	73,173	67,204	82,080	94,968
March	58,826	51,011	42,176	69,019	79,168
April	51,201	44,880	36,583	59,026	78,792
May	52,181	40,473	42,782	68,435	82,169
June	52,652	55,515	58,768	86,581	84,702
July	61,979	58,471	60,035	95,502	71,608
August	71,150	71,982	67,531	96,629	72,995
September	88,897	87,493	82,882	104,889	76,915
October	101,987	110,091	103,198	113,935	107,583
November	122,315	121,476	132,546	125,057	128,451
December	115,338	113,620	129,342	133,999	134,581

Table 42.—Coal-chemical materials, exclusive of breeze, produced at oven-coke plants in the United States in 1966 [1]

Product	Produced	Sold			On hand Dec. 31
		Quantity	Value		
			Total	Average	
Tar, crude gallons	801,867,163	[2] 361,271,799	$34,592,917	$0.096	43,790,286
Tar derivatives:					
Sodium phenolate or carbolate do	3,183,696	3,153,656	357,845	.113	190,827
Crude chemical oil (tar acid oil) do	27,477,320	27,267,068	4,476,408	.164	890,901
Pitch-of-tar: [3]					
Soft short tons	652,591	190,474	4,756,225	24.970	24,095
Hard do	391,752	141,892	6,099,314	42.986	60,457
Other tar derivatives: [4]	-----	-----	13,348,106	-----	-----
Ammonia products:					
Sulfate short tons	763,771	821,860	21,074,826	25.643	99,564
Liquor (NH_3 content) do	13,522	11,870	747,831	63.002	1,661
Diammonium phosphate do	45,785	43,647	4,472,962	102.480	6,947
Total	-----	-----	26,295,619	-----	-----
Sulfate equivalent of all forms short tons	862,007	911,551	-----	-----	112,390
NH_3 equivalent of all forms do	222,226	234,998	-----	-----	28,974
Gas:					
Used under boilers, etc. thousand cubic feet	[5] 989,804,921	102,975,145	19,631,134	.191	-----
Used in steel or allied plants do		480,451,726	110,393,407	.230	-----
Distributed through city mains do		20,872,119	8,932,738	.428	-----
Sold for industrial use do		25,265,979	4,183,018	.166	-----
Total do	989,804,921	629,564,969	143,140,297	.227	-----
Crude light oil gallons	[6] 262,639,643	83,274,238	11,218,749	.135	7,796,140
Light oil derivatives:					
Benzene:					
Specification grades (1°, 2°, 90 percent) gallons	110,223,422	107,950,093	26,592,949	.246	3,165,360
Other industrial grades do	3,708,829	4,144,800	739,688	.178	52,973
Toluene (all grades) do	22,790,685	22,621,745	4,308,867	.190	853,728
Xylene (all grades) do	6,123,896	6,410,151	1,405,181	.219	555,045
Solvent naphtha (all grades) do	3,160,582	2,954,144	547,115	.185	242,143
Other light oil derivatives do	6,348,438	3,076,434	272,455	.089	256,949
Total do	152,355,852	147,157,367	33,866,255	.230	5,126,198
Intermediate light oil do	5,978,308	3,622,193	128,468	.035	237,163
Grand total do	-----	-----	278,280,203	-----	-----

[1] Includes products of tar distillation conducted by oven-coke operators under the same corporate name.

[2] Includes 22,600,609 gallons sold to affiliated companies for refining and a small amount exported.

[3] Soft—water-softening point less than 110° F; medium—from 110° to 160° F; hard—over 160° F. Figures on hard pitch include small amount of medium pitch.

[4] Creosote oil, cresols, cresylic acid, naphthalene, phenol, pyridine, refined tar, tar paint.

[5] Includes gas used for heating ovens and gas wasted.

[6] 179,757,346 gallons refined by coke-oven operators to make derived products shown.

Table 43.—Coal equivalent of the thermal materials, except coke, produced at oven-coke plants in the United States

Year	Materials produced				Estimated equivalent in heating value[1] (billion Btu)					Coal equivalent (thousand short tons)
	Coke breeze (thousand short tons)	Surplus gas (billion cubic feet)	Tar (thousand gallons)	Light oil (thousand gallons)	Coke breeze	Surplus gas	Tar	Light oil	Total	
1957-59 (average)	4,077	568	732,173	244,118	81,532	312,400	109,826	31,735	535,493	20,439
1963	3,609	516	671,876	218,166	72,180	283,800	100,781	28,362	485,123	18,516
1964	3,902	582	762,918	248,669	78,040	320,100	114,438	32,327	544,905	20,798
1965	4,037	630	802,738	262,701	80,740	346,500	120,411	34,151	581,802	22,206
1966	4,012	630	801,867	262,640	80,240	346,300	120,280	34,143	580,963	22,174

[1] Breeze, 10,000 Btu per pound; gas, 550 Btu per cubic foot; tar, 150,000 Btu per gallon; and light oil, 130,000 Btu per gallon.

Table 44.—Average value of coal-chemical materials used or sold and of coke and breeze produced per short ton of coal carbonized in the United States

Product	1957-59 (average)	1963	1964	1965	1966
Ammonia products	$0.307	$0.270	$0.275	$0.268	$0.280
Light oil and its derivatives	.687	.473	.459	.505	.481
Surplus gas used or sold	1.592	1.526	1.516	1.556	1,522
Tar and its derivatives (including naphthalene):					
Tar burned by producers[1]	.427	.336	.381	.362	.328
Sold	.828	.719	.705	.672	.677
Total	3,841	3,324	3,336	3,363	3,288
Coke produced	12,749	12,253	12,426	11,890	12,167
Breeze produced	.308	.328	.303	.301	.292
Grand total	16,898	15,905	16,065	15,554	15,747

[1] Includes pitch-of-tar.

Table 45.—Percentage of coal costs recovered from the recovery of coal-chemical materials in the United States

	1957-59 (average)	1963	1964	1965	1966
Product:					
Ammonia products	3.1	2.8	3.0	2.8	2.9
Light oil and its derivatives	6.9	5.0	4.9	5.3	4.9
Surplus gas used or sold	16.1	16.1	16.3	16.4	15.6
Tar and its derivatives used or sold (including naphthalene)	12.7	11.1	11.7	11.0	10.3
Total	38.8	35.0	35.9	35.5	33.7
Value of coal per short ton	$9.90	$9.49	$9.28	$9.51	$9.78

Table 46.—Production and disposal of coke-oven gas in the United States in 1966, by States

(Thousand cubic feet)

State	Produced		Used in heating ovens	Surplus used or sold			Wasted
	Total	Per ton of coal coked		Quantity	Value		
					Total	Average	
Alabama	72,619,836	9.72	33,577,101	37,788,765	$5,549,646	$0.147	1,253,970
California, Colorado, Utah	56,695,671	11.15	18,291,019	38,026,158	6,578,963	.173	378,494
Connecticut, Maryland, New Jersey, New York	132,387,743	10.85	38,324,900	92,428,209	33,761,126	.365	1,634,634
Illinois	37,662,294	10.20	11,723,330	24,503,340	4,152,242	.169	1,435,624
Indiana	130,101,114	10.74	38,763,548	90,489,488	17,628,145	.195	848,078
Kentucky, Missouri, Tennessee, Texas	25,949,350	9.44	13,461,710	11,676,896	1,534,907	.131	810,744
Michigan	49,495,445	9.77	8,521,757	40,920,938	9,719,157	.238	52,750
Minnesota and Wisconsin	14,932,283	9.50	7,735,607	6,737,623	1,012,625	.150	459,053
Ohio	121,108,306	10.00	44,900,214	73,356,102	17,194,687	.234	2,851,990
Pennsylvania	290,752,307	10.85	115,099,690	173,401,836	36,318,243	.209	2,250,781
West Virginia	58,100,572	11.22	16,642,028	40,235,614	9,690,556	.241	1,222,930
Total 1966	989,804,921	10.53	347,040,904	629,564,969	143,140,297	.227	13,199,048
At merchant plants	77,861,508	8.85	36,353,964	39,429,707	11,202,007	.284	2,077,837
At furnace plants	911,943,413	10.70	310,686,940	590,135,262	131,938,290	.224	11,121,211
Total 1965	978,007,364	10.56	338,230,320	629,811,616	144,063,910	.229	9,965,428

Table 47.—Surplus coke-oven gas used by producers in the United States and sold in 1966, by States

(Thousand cubic feet)

State	Used by producers					
	Under boilers, etc.			In steel or allied plants		
	Quantity	Value		Quantity	Value	
		Total	Average		Total	Average
Alabama	15,503,333	$2,271,971	$0,147	18,118,991	$2,778,685	$0,153
California, Colorado, Utah	(1)	(1)	(1)	(1)	(1)	(1)
Connecticut, Maryland, New Jersey, New York	4,485,000	961,707	.214	72,777,860	25,321,455	.348
Illinois	4,676,006	656,846	.140	13,839,447	2,564,204	.185
Indiana	7,387,725	1,408,981	.191	79,900,968	14,879,118	.186
Kentucky, Missouri, Tennessee, Texas	4,950,032	573,351	.116	(1)	(1)	(1)
Michigan	(1)	(1)	(1)	35,402,264	8,339,346	.236
Minnesota and Wisconsin	(1)	(1)	(1)	(1)	(1)	(1)
Ohio	12,772,292	3,121,243	.244	53,294,224	12,807,362	.240
Pennsylvania	24,294,478	4,757,692	.196	146,848,299	31,182,652	.212
West Virginia	(1)	(1)	(1)	(1)	(1)	(1)
Undistributed	28,906,279	5,879,343	.203	60,269,673	12,520,585	.208
Total 1966	102,975,145	19,631,134	.191	480,451,726	110,393,407	.230
At merchant plants	11,107,855	2,028,652	.183	1,279,095	304,094	.238
At furnace plants	91,867,290	17,602,482	.192	479,172,631	110,089,313	.230
Total 1965	103,501,216	19,489,101	.188	476,748,049	110,604,344	.232

State	Sold					
	Distributed through city mains			For industrial use		
	Quantity	Value		Quantity	Value	
		Total	Average		Total	Average
Alabama	(1)	(1)	(1)	2,642,087	$395,531	$0.150
California, Colorado, Utah	---------	---------	------	(1)	(1)	(1)
Connecticut, Maryland, New Jersey, New York	15,151,752	$7,474,408	$0.493	(1)	(1)	(1)
Illinois	---------	---------	------	(1)	(1)	(1)
Indiana	(1)	(1)	(1)	(1)	(1)	(1)
Kentucky, Missouri, Tennessee, Texas	---------	---------	------	(1)	(1)	(1)
Michigan	---------	---------	------	(1)	(1)	(1)
Minnesota and Wisconsin	---------	---------	------	(1)	(1)	(1)
Ohio	---------	---------	------	7,289,586	1,266,082	.174
Pennsylvania	(1)	(1)	(1)	(1)	(1)	(1)
West Virginia	---------	---------	------	(1)	(1)	(1)
Undistributed	5,720,367	1,458,330	.255	15,334,306	2,521,405	.164
Total 1966	20,872,119	8,932,738	.428	25,265,979	4,183,018	.166
At merchant plants	14,495,439	6,624,849	.457	12,547,318	2,244,412	.179
At furnace plants	6,376,680	2,307,889	.362	12,718,661	1,938,606	.152
Total 1965	22,391,487	9,403,285	.420	27,170,864	4,567,180	.168

[1] Included with "Undistributed" to avoid disclosing individual company confidential data.

Table 48.—Coke-oven gas and other gases used in heating coke ovens in the United States in 1966, by States[1]

(Thousand cubic feet)

State	Coke-oven gas	Blast-furnace gas	Natural gas	Total coke-oven gas equivalent
Alabama	33,577,101	----------	8,635	33,585,736
California, Colorado, Utah	18,291,019	3,878,740	20,664	22,190,423
Connecticut, Maryland, New Jersey, New York	38,324,900	12,467,445	1,182,415	51,974,760
Illinois	11,723,330	5,829,512	----------	17,552,842
Indiana	38,763,548	8,270,416	18	47,033,982
Kentucky, Missouri, Tennessee, Texas	13,461,710	----------	----------	13,461,710
Michigan	8,521,757	14,630,867	----------	23,152,624
Minnesota and Wisconsin	7,735,607	----------	----------	7,735,607
Ohio	44,900,214	4,588,506	----------	49,488,720
Pennsylvania	115,099,690	1,962,712	----------	117,062,402
West Virginia	16,642,028	6,256,094	----------	22,898,122
Total 1966	347,040,904	57,884,292	1,211,732	406,136,928
At merchant plants	36,353,964	----------	547,316	36,901,280
At furnace plants	310,686,940	57,884,292	664,416	369,235,648
Total 1965	338,230,320	60,822,972	1,571,317	400,624,609

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[1] Adjusted to an equivalent of 550 Btu per cubic foot.

Table 49.—Coke-oven ammonia produced in the United States and sold in 1966, by States

(Short tons)

State	Active plants [1]	Produced			
		Sulfate equivalent	Pounds per ton of coal coked	As sulfate [2]	As liquor (NH_3 content)
Alabama	7	71,426	19.26	69,060	(3)
California, Colorado, Utah	3	55,117	21.68	55,117	------
Connecticut, Maryland, New Jersey, New York	5	120,468	20.63	111,709	(3)
Illinois	4	34,468	19.23	34,468	------
Indiana	5	118,491	19.56	107,296	(3)
Kentucky, Tennessee, Texas	3	15,526	15.54	(3)	(3)
Michigan	3	37,011	14.60	(3)	(3)
Minnesota and Wisconsin	2	7,930	11.93	(3)	(3)
Ohio	11	98,819	17.00	86,259	(3)
Pennsylvania	12	256,526	19.17	256,526	------
West Virginia	3	46,225	18.09	46,225	------
Undistributed	--	--------	--------	42,896	13,522
Total 1966	58	862,007	18.79	[4] 809,556	13,522
At merchant plants	12	65,978	17.33	25,470	10,443
At furnace plants	46	796,029	18.92	784,086	3,079
Total 1965	58	803,758	17.73	741,826	15,966

State	Sold [5]				On hand Dec. 31	
	As sulfate [2]		As liquor (NH_3 content)		Sulfate [2]	Liquor (NH_3 content)
	Quantity	Value	Quantity	Value		
Alabama	80,424	$2,184,088	(3)	(3)	11,723	14
California, Colorado, Utah	61,826	4,105,242	--------	--------	9,675	--------
Connecticut, Maryland, New Jersey, New York	113,561	3,440,810	(3)	(3)	10,560	215
Illinois	38,929	1,069,891	--------	--------	2,669	--------
Indiana	103,907	3,016,293	(3)	(3)	8,340	573
Kentucky, Tennessee, Texas	(3)	(3)	(3)	(3)	156	206
Michigan	(3)	(3)	(3)	(3)	5,451	4
Minnesota and Wisconsin	(3)	(3)	(3)	(3)	295	112
Ohio	82,202	2,144,917	(3)	(3)	13,690	537
Pennsylvania	294,344	6,020,497	--------	--------	41,101	--------
West Virginia	48,932	1,219,905	--------	--------	2,851	--------
Undistributed	41,382	2,346,145	11,870	747,831	--------	--------
Total 1966	[6] 865,507	25,547,788	11,870	747,831	106,511	1,661
At merchant plants	27,011	769,778	8,987	597,961	5,491	1,132
At furnace plants	838,496	24,778,010	2,883	149,870	101,020	529
Total 1965	712,933	23,942,725	14,061	910,242	188,708	1,681

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[1] Number of plants that recover ammonia.

[2] Includes diammonium phosphate.

[3] Included with "Undistributed" to avoid disclosing individual company confidential data.

[4] Comprises 763,771 tons of ammonium sulfate and 45,785 tons of diammonium phosphate produced in California, Colorado, and Michigan.

[5] Includes 129,388 tons of ammonium sulfate valued at $3,109,192 exported.

[6] Comprises 821,860 tons of ammonium sulfate valued at $21,074,826 and 43,647 tons of diammonium phosphate valued at $4,472,962.

Table 50.—Coke-oven tar produced in the United States, used by producers, and sold in 1966, by States

(Gallons)

State	Produced		Used by producers		
	Total	Per ton of coal coked	For refining or topping	As fuel	Otherwise
Alabama	51,449,734	6.88	(1)	------	------
California, Colorado, Utah	51,104,939	10.05	(1)	(1)	(1)
Connecticut, Maryland, New Jersey, New York	108,696,342	8.91	(1)	(1)	------
Illinois	25,457,545	6.89	------	(1)	------
Indiana	97,592,117	8.06	(1)	(1)	------
Kentucky, Missouri, Tennessee, Texas	17,256,652	6.28	------	------	(1)
Michigan	39,002,735	7.70	------	(1)	------
Minnesota and Wisconsin	9,403,010	5.98	------	------	(1)
Ohio	108,445,616	8.96	(1)	37,357,031	(1)
Pennsylvania	244,067,552	9.11	127,247,150	46,345,998	1,642,077
West Virginia	49,390,921	9.53	(1)	(1)	------
Undistributed	------	----	175,625,865	48,187,376	549,552
Total 1966	801,867,163	8.53	302,873,015	131,890,405	2,191,629
At merchant plants	54,670,011	6.22	657,961	------	------
At furnace plants	747,197,152	8.77	302,215,054	131,890,405	2,191,629
Total 1965	802,737,740	8.67	312,078,632	122,960,567	870,691

State	Sold for refining into tar products [2]			On hand Dec. 31
	Quantity	Value		
		Total	Average	
Alabama	31,695,577	$3,432,695	$0.108	4,812,125
California, Colorado, Utah	23,523,040	2,211,121	.094	2,662,440
Connecticut, Maryland, New Jersey, New York	26,522,117	2,532,571	.095	4,473,448
Illinois	24,258,764	2,254,137	.093	1,575,387
Indiana	51,315,058	4,734,184	.092	3,883,789
Kentucky, Missouri, Tennessee, Texas	16,975,515	1,713,599	.101	398,775
Michigan	30,095,218	2,790,766	.093	2,101,445
Minnesota and Wisconsin	9,393,542	899,329	.096	696,561
Ohio	54,909,376	5,236,862	.095	6,942,636
Pennsylvania	67,842,976	6,665,026	.098	13,367,522
West Virginia	24,740,616	2,122,627	.086	2,876,158
Undistributed	------	------	----	------
Total 1966	361,271,799	34,592,917	.096	43,790,286
At merchant plants	53,491,641	5,203,444	.097	1,903,888
At furnace plants	307,780,158	29,389,473	.095	41,886,398
Total 1965	366,228,725	36,665,763	.100	40,316,236

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[1] Included with "Undistributed" to avoid disclosing individual company confidential data.

[2] Comprises 24,888,994 gallons valued at $2,385,777 sold to affiliated companies and 336,382,805 gallons valued at $32,207,140 sold to other purchasers. Also includes small amount exported.

Table 51.—Coke-oven crude light-oil produced in the United States and derived products produced and sold in 1966, by States

(Gallons)

State	Active plants[1]	Crude light oil				Derived products		
		Produced	Per ton of coal coked	Refined on premises[2]	On hand Dec. 31	Produced	Sold[3]	
							Quantity	Value
Alabama	7	16,303,530	2.18	15,944,897	718,573	12,787,184	13,590,151	(4)
California, Colorado, Utah	3	17,292,232	3.40	11,271,410	317,802	9,904,944	8,822,879	$1,900,510
Connecticut, Maryland, New Jersey, New York	7	39,016,566	3.20	28,901,154	1,358,867	22,575,328	18,236,302	4,345,043
Illinois and Michigan	7	22,784,879	2.63	9,386,867	557,978	7,901,050	8,031,466	1,899,533
Indiana	5	31,776,997	2.62	1,579,273	1,928,662	1,290,933	1,322,764	232,343
Kentucky, Missouri, Tennessee, Texas, West Virginia	8	22,515,376	2.92	9,239,590	805,878	8,312,979	8,459,731	4,952,274
Ohio	11	32,774,475	2.57	24,486,564	413,463	19,512,113	19,227,629	4,088,586
Pennsylvania	11	80,175,588	2.99	78,947,591	1,694,917	70,071,321	69,466,445	16,447,966
Total 1966	59	262,639,643	2.86	179,757,346	7,796,140	152,355,852	147,157,367	33,866,255
At merchant plants	13	15,142,418	2.03	11,540,288	2,713,367	9,899,594	4,859,706	1,053,325
At furnace plants	46	247,497,225	2.94	168,217,058	5,082,773	142,456,258	142,297,661	32,812,930
Total 1965	58	262,700,991	2.91	193,583,791	7,715,104	166,888,899	168,914,902	37,113,507

[1] Number of plants that recovered crude light oil.
[2] Includes small quantity of material also reported in sales of crude light oil in table 42.
[3] Excludes 83,274,238 gallons of crude light oil valued at $11,218,749 sold as such.
[4] Included with Kentucky, Missouri, Tennessee, Texas, West Virginia, to avoid disclosing individual company confidential data.

Table 52.—Yield of light-oil derivatives from refining crude light oil at oven-coke plants in the United States

(Percent)

Year	Benzene (all grades)	Toluene (all grades)	Xylene (all grades)	Solvent naphtha (crude and refined)	Other light-oil products
1957–59 (average)	60.9	13.5	3.9	2.1	2.3
1963	62.1	13.9	3.7	1.9	2.4
1964	62.3	13.3	3.7	2.3	4.3
1965	63.0	12.8	3.5	2.8	4.1
1966	63.4	12.7	3.4	1.8	3.5

Table 53.—Benzene and toluene produced at oven-coke plants in the United States, by grade

(Gallons)

Year	Benzene		Toluene
	Specification grades (1°, 2°, 90%)	Other Industrial grades	Specification grades[1] (1°, 2°)
1957–59 (average)	133,927,400	6,434,100	31,007,100
1963	111,771,500	3,562,900	25,794,400
1964	116,291,700	3,516,400	25,520,500
1965	117,990,500	3,926,700	24,815,800
1966	110,223,400	3,708,800	22,790,700

[1] Includes grades other than "Specification grades (1°, 2°)" to avoid disclosing individual company confidential data.

Table 54.—Light-oil derivatives produced at oven-coke plants in the United States and sold in 1966, by States

(Gallons)

State	Benzene (all grades)				Toluene (all grades)			
	Produced	Yield from crude light oil refined (percent)	Sold		Produced	Yield from crude light oil refined (percent)	Sold	
			Quantity	Value			Quantity	Value
Alabama	9,749,032	61.1	10,115,112	$2,511,170	2,012,502	12.6	2,307,318	$422,216
California, Colorado, Utah	6,732,654	59.7	7,043,819	(1)	1,690,431	15.0	1,169,234	(1)
Illinois and Michigan	6,908,319	73.6	7,017,682	1,710,941	838,198	8.9	850,955	161,282
Indiana	636,353	40.3	736,553	1,693,966	182,815	11.6	192,055	258,685
Maryland and New York	18,686,815	64.7	15,523,115	3,833,771	2,241,198	7.8	1,897,265	355,793
Ohio	14,333,602	58.5	14,236,221	3,159,778	3,391,203	13.8	3,454,238	642,029
Pennsylvania	50,835,678	64.4	51,279,207	12,981,547	11,096,792	14.1	11,276,024	2,204,855
Tennessee, Texas, West Virginia	6,049,798	65.5	6,143,184	1,441,464	1,337,546	14.5	1,474,656	264,007
Total 1966	113,932,251	63.4	112,094,893	27,332,637	22,790,685	12.7	22,621,745	4,308,867
At merchant plants	6,978,581	60.5	3,404,680	777,582	1,587,665	13.8	1,070,280	201,040
At furnace plants	106,953,670	63.6	108,690,213	26,555,055	21,203,020	12.6	21,551,465	4,107,827
Total 1965	121,917,154	63.0	127,449,165	29,651,689	24,815,762	12.8	25,086,510	4,622,029

State	Xylene (all grades)				Solvent naphtha (crude and refined)			
	Produced	Yield from crude light oil refined (percent)	Sold		Produced	Yield from crude light oil refined (percent)	Sold	
			Quantity	Value			Quantity	Value
Alabama	462,886	2.9	598,319	$140,630	138,292	0.9	128,506	$26,506
California, Colorado, Utah	369,727	3.3	382,556	(1)	237,537	2.1	227,270	(1)
Illinois and Michigan	79,095	.8	85,053	16,277	(1)	1.3	(1)	(1)
Indiana	53,518	3.4	54,223	100,372	43,588	2.8	44,156	56,954
Maryland and New York	401,842	1.4	449,804	97,973	(2)	1.1	(2)	(2)
Ohio	917,184	3.7	921,156	208,296	745,393	3.0	616,014	78,483
Pennsylvania	3,428,322	4.3	3,592,719	772,417	1,995,772	2.0	1,938,198	385,172
Tennessee, Texas, West Virginia	411,322	4.5	326,321	69,216	(2)	0.1	(2)	(2)
Total 1966	6,123,896	3.4	6,410,151	1,405,181	3,160,582	1.8	2,954,144	547,115
At merchant plants	354,093	3.1	227,614	53,445	43,404	.4	43,506	9,327
At furnace plants	5,769,803	3.4	6,182,537	1,351,736	3,117,178	1.9	2,910,638	537,788
Total 1965	6,740,974	3.5	6,912,976	1,523,015	5,420,421	2.8	4,578,116	868,621

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[1] Included with Indiana to avoid disclosing individual company confidential data.
[2] Included with Pennsylvania to avoid disclosing individual company confidential data.

Table 55.—Estimated consumption of commercial benzene (excluding motor grade) in the United States, by uses [1]

(Thousand gallons)

Use	1957-59 (average)	1963	1964	1965 [r]	1966
Styrene	160,000	232,000	283,000	312,000	368,000
Phenol (synthetic)	74,000	121,000	146,000	161,000	178,000
Dodecylbenzene	36,000	37,000	31,000	34,000	42,000
Cyclohexane	30,000	120,000	117,000	160,000	167,000
Aniline	14,000	19,000	21,000	24,000	29,000
DDT	14,000	17,000	12,000	14,000	14,000
Dichlorobenzene and monochlorobenzene	11,000	19,000	20,000	20,000	20,000
Maleic anhydride	9,000	14,000	20,000	22,000	28,000
Benzene hexachloride	3,000	-----	-----	-----	-----
Diphenyls	4,500	5,000	5,000	5,000	5,000
Nitrobenzene	2,000	2,000	2,000	2,000	2,000
Miscellaneous	21,500	20,000	20,000	20,000	20,000
Exported	7,000	65,000	87,000	45,000	97,000
Total	386,000	671,000	764,000	819,000	970,000

[r] Revised.

[1] Coal-Chemicals Committee, American Coke and Coal-Chemicals Institute, Washington, D.C.

Helium

Table 1.—Ownership and location of helium extraction plants in the United States

Plant category	Owner or operator	Location	Type of production
1	Bureau of Mines	Amarillo, Tex	Grade A helium.
1	do	Exell, Tex	Do.
1	do	Keyes, Okla	Do.
1	do	Shiprock, N. Mex	Do.
1	do	Otis, Kans. [1]	Crude helium only (no sales from plant).
2 [2]	Cities Service Helex, Inc	Ulysses, Kans	Crude helium only.
2 [2]	National Helium Corp	Liberal, Kans	Do.
2 [2]	Northern Helex Co	Bushton, Kans	Do.
2 [2]	Phillips Petroleum Co	Dumas, Tex	Do.
3	Kerr-McGee Corp	Navajo, Ariz	Grade A helium. [3]
3	Kansas Refined Helium Co	Otis, Kans	Do. [3]
3	Alamo Chemical Co	Greenwood, Kans	Do. [3]

[1] Plant operated as part of the national helium conservation program.
[2] The output of all plants in category 2 is purchased by the Bureau of Mines.
[3] Plant equipped to produce liquid helium.

Table 2.—Helium production in the United States

(Million cubic feet)

Year	Production	Year	Production
1921–28	[1] 5.8	1962	713.4
1929–42	[1] 11.8	1963	2,231.5
1943–49	[1] 83.5	1964	4,027.4
1950–54	[1] 138.0	1965	4,365.1
1955–59	[1] 313.4	1966	4,524.7
1960	642.0		
1961	727.6	Total 1921–66	20,284.7

[1] Annual average.

Table 3.—Production of helium by Bureau of Mines plants

(Million cubic feet of Grade A helium)

Plant location	1965 [r]	1966
Amarillo, Tex	55.6	62.7
Exell, Tex	275.3	301.4
Keyes, Okla	251.2	352.4
Shiprock, N. Mex	84.1	95.9
Otis, Kans. [1]	25.5	----
Total	691.7	812.4

[r] Revised.
[1] Production of Grade A helium discontinued July 1965.

Table 4.—Shipments of grade A helium from Bureau of Mines plants, in 1966

(Million cubic feet)

Plant	Shipments		Total shipments
	Federal agencies	Non-Federal customers [1]	
Amarillo, Tex	80.9	84.5	165.4
Exell, Tex	148.6	50.4	199.0
Keyes, Okla	206.5	142.9	349.4
Shiprock, N. Mex	70.9	23.9	94.8
Total	506.9	301.7	808.6

[1] A large part of this helium is redistributed by the Bureau's non-Federal customers to Federal agencies and their contractors; hence, the data herein are not indicative of actual helium use by non-Federal customers.

Table 5.—Shipments of grade A helium from Bureau of Mines plants to various customers

(Million cubic feet)

Recipient	1965		1966	
	Quantity	Percent	Quantity	Percent
Federal agencies:				
Department of Defense	313.2	44.8	232.9	28.8
Atomic Energy Commission	59.9	8.6	52.9	6.5
National Aeronautics and Space Administration	99.9	14.3	214.7	26.6
Weather Bureau	5.6	.8	5.8	.7
Other	.5	.1	.6	.1
Total	479.1	68.6	506.9	62.7
Non-Federal customers [1]	219.5	31.4	301.7	37.3
Grand total	698.6	100.0	808.6	100.0

[1] A large part of this helium is redistributed by the Bureau's non-Federal customers to Federal agencies and their contractors; hence, the data herein are not indicative of actual helium use by non-Federal customers.

Table 6.—Helium use in the United States

(Million cubic feet of Grade A helium)

Year	Quantity	Year	Quantity
1957	310	1962	[1] 630
1958	352	1963	[1] 662
1959	375	1964	[1] 713
1960	475	1965	[1] 757
1961	551	1966	[1] 948

[1] Includes helium produced and sold by privately-owned helium-extraction plants.

Table 7.—Crude helium purchased by the Bureau of Mines for conservation

(Million cubic feet)

Company and location of plant	Helium delivered				
	1962	1963	1964	1965	1966
Northern Helex Co., Bushton, Kans	1.9	208.1	493.9	585.1	565.5
Cities Service Helex, Inc., Ulysses, Kans	---	75.3	492.2	638.6	717.4
National Helium Corp., Liberal, Kans	---	457.5	1,184.4	1,310.2	[1] 1,303.7
Phillips Petroleum Co., Dumas, Tex	---	197.7	458.7	513.6	539.8
Phillips Petroleum Co., Hansford Co., Tex	.5	481.7	563.9	502.1	490.7
Total	2.4	1,420.3	3,193.1	3,549.6	3,617.1

[1] Does not include 57.6 million cubic feet stored for National Helium Corp., but not purchased by Bureau of Mines.

Table 8.—Helium in conservation storage

(Million cubic feet)

Year	Amount stored		Amount withdrawn from storage [2]	Amount in storage on Dec. 31
	From Bureau of Mines plants	From conservation plants [1]		
1960	[3] 273.0	---	---	273
1961	174.0	---	---	447
1962	75.2	2.4	---	524.6
1963	165.0	1,420.3	---	2,109.9
1964	131.0	3,193.1	0.7	5,433.3
1965	114.1	[r] 3,527.3	1.9	9,072.8
1966	71.1	[4] 3,586.4	10.1	[4] 12,720.2

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[r] Revised.

[1] Some crude helium purchased from conservation plants is purified for shipment to meet peak demands prior to conservation storage; consequently, the amounts shown are not necessarily identical to the amounts purchased by the Bureau of Mines and shown in table 7.

[2] Withdrawn incidental to operation of Cliffside field.

[3] Stored during 1960 and previous years.

[4] Includes 60.2 million cubic feet stored for 1 conservation company and 1 private company, but not purchased by Bureau of Mines.

Natural Gas

Table 1.—Salient statistics of natural gas in the United States

	1962	1963	1964	1965	1966
Supply:					
Marketed production [1] million cubic feet	13,801,244	14,666,559	15,462,143	16,039,753	17,206,628
Withdrawn from storage do	849,695	911,741	880,498	959,865	1,141,614
Imports do	399,353	403,997	440,918	456,394	479,780
Total do	15,050,292	15,982,297	16,783,559	17,456,012	18,828,022
Disposition:					
Consumption do	13,814,678	14,560,953	15,451,979	16,033,189	17,191,711
Exports do	15,728	16,865	19,497	26,132	24,639
Stored do	935,712	1,041,802	1,009,302	1,077,980	1,210,469
Lost in transmission, etc. do	284,174	362,677	302,781	318,711	401,203
Total do	15,050,292	15,982,297	16,783,559	17,456,012	18,828,022
Value at wellhead:					
Total thousand dollars	2,145,301	2,328,030	2,387,689	2,494,542	2,702,759
Average cents per Mcf	15.5	15.9	15.4	15.6	15.7

[1] Comprises gas sold or consumed by producers, including gas loss due to natural gas liquids recovery, losses in transmission, quantities added to storage, and increases of gas in pipelines.

Table 2.—Quantity and value of marketed production [1] of natural gas in the United States

State	1965			1966		
	Quantity (million cubic feet)	Value (thousand dollars)	Average wellhead value cts. per Mcf	Quantity (million cubic feet)	Value (thousand dollars)	Average wellhead value cts. per Mcf
Alabama	203	26	12.7	252	32	12.8
Alaska	7,255	1,799	24.8	11,267	2,794	24.8
Arizona	3,106	376	12.1	3,161	436	13.8
Arkansas	82,831	12,922	15.6	105,174	16,407	15.6
California	660,384	204,059	30.9	689,607	204,059	31.0
Colorado	126,381	16,303	12.9	136,667	17,767	13.0
Florida	107	14	12.9	212	30	14.2
Illinois	7,396	865	11.7	7,230	860	11.9
Indiana	239	56	23.6	215	51	23.7
Kansas	793,379	105,519	13.3	847,495	114,412	13.5
Kentucky	78,976	18,638	23.6	76,536	18,139	23.7
Louisiana	4,466,786	812,955	18.2	5,081,435	929,902	18.3
Maryland	408	103	25.2	696	181	26.0
Michigan	34,558	8,674	25.1	34,120	8,598	25.2
Mississippi	166,825	28,861	17.3	156,652	27,257	17.4
Missouri	84	21	24.5	---	---	---
Montana	28,105	2,305	8.2	30,685	2,547	8.3
Nebraska	10,720	1,565	14.6	10,196	1,621	15.9
New Mexico	937,205	110,590	11.8	998,076	124,760	12.5
New York	3,340	1,029	30.8	2,699	837	31.0
North Dakota	35,652	5,704	16.0	46,585	7,547	16.2
Ohio	35,684	8,421	23.6	43,133	10,223	23.7
Oklahoma	1,320,995	182,297	13.8	1,351,225	189,172	14.0
Pennsylvania	84,461	22,551	26.7	90,914	25,820	28.4
Tennessee	85	16	19.0	---	---	---
Texas	6,636,555	858,396	12.9	6,953,790	903,993	13.0
Utah	71,616	8,952	12.5	69,366	8,809	12.7
Virginia	3,152	942	29.9	4,249	1,275	30.0
West Virginia	207,416	48,743	23.5	211,610	49,940	23.6
Wyoming	235,849	31,840	13.5	243,381	35,290	14.5
Total	16,039,753	2,494,542	15.6	17,206,628	2,702,759	15.7

[1] Comprises gas either sold or consumed by producers, including gas loss due to natural gas liquids recovery, losses in transmission, quantities added to storage, and increases of gas in pipelines.

Table 3.—Marketed production, interstate shipments, and total consumption of natural gas in the United States

(Million cubic feet)

State by region	Marketed production	Interstate movements			Transmission loss and unaccounted for	Change in underground storage	Consumption
		Receipts	Deliveries	Net receipts (+) or deliveries (−)			
New England:							
Connecticut	------	123,622	74,042	49,580	1,885	------	47,695
Massachusetts	------	133,394	14,986	118,408	2,210	------	116,198
Rhode Island	------	78,203	60,814	17,389	705	------	16,684
Vermont, Maine, and New Hampshire	------	5,810	------	5,810	243	------	5,567
Total:							
1966	------	341,029	149,842	191,187	5,043	------	186,144
1965	------	NA	NA	178,280	2,798	------	175,482
Middle Atlantic:							
New Jersey	------	583,683	343,655	240,028	11,990	767	227,271
New York	2,699	843,396	198,836	644,560	20,402	−4,951	631,808
Pennsylvania	90,914	1,725,852	1,124,765	601,087	23,795	−8,905	677,111
Total:							
1966	93,613	3,152,931	1,667,256	1,485,675	56,187	−13,089	1,536,190
1965	87,801	NA	NA	1,344,259	53,657	−5,253	1,383,656
East North Central:							
Illinois	7,230	1,965,055	1,088,855	876,200	9,881	19,400	854,149
Indiana	215	1,648,425	1,240,673	407,752	9,530	−1,468	399,905
Michigan	34,120	653,316	20,174	633,142	17,752	29,647	619,863
Ohio	43,133	2,436,735	1,526,453	910,282	9,823	−1,175	944,767
Wisconsin	------	239,703	9,096	230,607	5,780	152	224,675
Total:							
1966	84,698	6,943,234	3,885,251	3,057,983	52,766	46,556	3,043,359
1965	77,877	NA	NA	2,773,183	33,674	49,049	2,768,337
West North Central:							
Iowa	------	1,098,493	856,829	241,664	4,508	−2,322	239,478
Kansas	847,495	1,658,161	1,980,462	−322,301	16,792	698	507,704
Minnesota	------	356,525	91,355	265,170	682	------	264,488
Missouri	------	1,565,975	1,203,369	362,606	11,091	−253	351,768
Nebraska	10,196	1,088,779	897,279	191,500	2,345	759	198,592
North Dakota	46,585	6,103	10,094	−3,991	1,758	------	40,836
South Dakota	------	29,064	619	28,445	189	------	28,256
Total:							
1966	904,276	5,803,100	5,040,007	763,093	37,365	−1,118	1,631,122
1965	839,835	NA	NA	707,123	7,174	12,725	1,527,059

South Atlantic:							
Delaware	------	20,978	1,215	19,763	550	168	19,045
Florida	212	214,452	------	214,452	2,386	------	212,278
Georgia	------	948,655	709,799	238,856	5,565	------	233,291
Maryland and District of Columbia	696	617,489	498,112	119,377	2,865	------	117,208
North Carolina	------	601,244	512,519	88,725	1,972	------	86,753
South Carolina	------	701,204	601,244	99,960	3,523	------	96,437
Virginia	4,249	732,869	611,795	121,074	3,665	−44	121,702
West Virginia	211,610	1,079,535	1,106,011	−26,476	4,543	−2,518	183,109
Total:							
1966	216,767	4,916,426	4,040,695	875,731	25,069	−2,394	1,069,823
1965	211,083	NA	NA	785,803	20,151	6,495	970,240
East South Central:							
Alabama	252	2,306,593	2,071,608	234,985	1,745	394	233,098
Kentucky	76,536	2,915,150	2,830,518	84,632	5,390	−4,614	160,392
Mississippi	156,652	4,661,092	4,524,566	136,526	6,666	122	286,390
Tennessee	------	3,131,399	2,904,266	227,133	1,108	------	226,025
Total:							
1966	233,440	13,014,234	12,330,958	683,276	14,909	−4,098	905,905
1965	246,089	NA	NA	648,374	23,645	7,494	863,324
West South Central:							
Arkansas	105,174	2,365,593	2,156,398	209,195	18,884	407	295,078
Louisiana	5,081,435	1,484,543	5,257,327	−3,772,784	20,938	28,937	1,258,776
Oklahoma	1,351,225	1,009,762	1,844,915	−835,153	15,731	10,309	490,032
Texas	6,953,790	228,644	3,395,393	−3,166,749	67,770	9,556	3,709,715
Total:							
1966	13,491,624	5,088,542	12,654,033	−7,565,491	123,323	49,209	5,753,601
1965	12,507,167	NA	NA	−6,964,512	84,535	13,810	5,444,310
Mountain:							
Arizona	3,161	1,220,124	1,059,039	161,085	1,926	------	162,320
Colorado	136,667	210,481	93,091	117,390	11,595	8,566	238,896
Idaho	------	292,408	255,998	36,410	306	------	36,104
Montana	30,685	69,883	12,180	57,703	1,357	18,202	78,829
Nevada	------	34,423	------	34,423	205	------	34,218
New Mexico	998,076	571,992	1,293,735	−721,743	14,567	−152	261,918
Utah	69,366	207,996	157,615	50,381	13,409	−136	106,474
Wyoming	243,381	85,855	241,297	−155,442	3,081	5,684	79,174
Total:							
1966	1,481,336	2,693,162	3,112,955	−419,793	46,446	27,164	987,933
1965	1,402,262	NA	NA	−372,756	37,551	19,561	972,394
Pacific:							
Alaska	11,267	------	------	------	483	------	10,784
California	689,607	1,199,395	------	1,199,395	37,907	−33,783	1,884,878
Oregon	------	231,102	165,638	65,464	371	------	65,093

Table 3.—Marketed production, interstate shipments, and total consumption of natural gas in the United States—Continued

(Million cubic feet)

State by region	Marketed production	Interstate movements			Transmission loss and unaccounted for	Change in underground storage	Consumption
		Receipts	Deliveries	Net receipts (+) or deliveries (−)			
Pacific—Continued							
Washington	------	321,828	203,207	118,621	1,334	408	116,879
Total:							
1966	700,874	1,752,325	368,845	1,383,480	40,095	−33,375	2,077,634
1965	667,639	NA	NA	1,330,508	55,526	14,234	1,928,387
Total United States:							
1966	17,206,628	[1] 43,704,983	[2] 43,249,842	455,141	401,203	68,855	17,191,711
1965	16,039,753	NA	NA	430,262	318,711	118,115	16,033,189

[1] Includes receipts (in million cubic feet) from Canada of 211,129 into Idaho; 77,148 into Minnesota; 31,118 into Montana; 270 into Vermont; and 110,524 into Washington and from Mexico 49,591 into Texas.

[2] Includes deliveries (in million cubic feet) into Canada; of 20,714 from Michigan and 107 from Montana and into Mexico; 2,997 from Arizona and 1,361 from Texas.

Table 4.—Number of consumers and volume of natural gas consumed by principal uses in the United States [1]

State by region	Number of consumers (in thousands)		Volume of natural gas, million cubic feet									Consumed at electric utilities (included in other industrial use) [2]
					Industrial							
	Residential	Commercial	Residential	Commercial	Field use (pumping, drilling, extraction loss and plant fuel)	Used to produce carbon black	Used as fuel at petroleum refineries	Used as pipeline fuel	All other, including electric utilities	Total industrial	Total consumption	
New England:												
Connecticut	358	27	24,859	7,356	-----	-----	-----	104	15,376	15,480	47,695	454
Massachusetts	967	63	66,322	18,521	-----	-----	-----	345	31,010	31,355	116,198	9,929
Rhode Island	151	8	9,310	2,471	-----	-----	-----	52	4,851	4,903	16,684	226
Vermont, Maine, and New Hampshire	56	4	3,376	1,314	-----	-----	-----	-----	877	877	5,567	-----
Total	1,532	102	103,867	29,662	-----	-----	-----	501	52,114	52,615	186,144	10,609
Middle Atlantic:												
New Jersey	1,518	127	122,620	22,589	-----	-----	7,002	399	74,661	82,062	227,271	22,920
New York	3,806	298	324,350	117,853	488	-----	-----	3,663	185,454	189,605	631,808	71,602
Pennsylvania	2,166	138	274,683	73,738	2,012	-----	26,512	20,970	279,196	328,690	677,111	1,203
Total	7,490	563	721,653	214,180	2,500	-----	33,514	25,032	539,311	600,357	1,536,190	95,725
East North Central:												
Illinois	2,575	181	354,274	161,122	13,670	-----	20,380	15,425	289,278	338,753	854,149	43,173
Indiana	889	87	122,454	47,909	9	-----	7,900	9,857	211,776	229,542	399,905	16,483
Michigan	1,710	143	286,839	95,282	6,090	-----	2,246	6,888	222,518	237,742	619,863	2,495
Ohio	2,346	182	434,072	136,525	2,508	-----	12,687	12,219	346,756	374,170	944,767	4,599
Wisconsin	661	49	83,897	28,922	-----	-----	(3)	2,180	[3] 109,676	111,856	224,675	15,837
Total	8,181	642	1,281,536	469,760	22,277	-----	(3)	46,569	[3] 1,180,004	1,292,063	3,043,359	82,587
West North Central:												
Iowa	532	73	78,541	41,792	-----	-----	-----	10,805	108,340	119,145	239,478	62,061
Kansas	571	53	87,625	32,268	[4] 34,908	(4)	33,675	56,353	262,875	387,811	507,704	125,229
Minnesota	581	56	86,821	35,219	-----	-----	(3)	1,189	141,259	142,448	264,488	51,227
Missouri	868	87	129,727	65,946	-----	-----	(3)	8,590	147,505	156,095	351,768	44,975
Nebraska	338	49	52,904	29,917	3,904	-----	(3)	9,330	102,537	115,771	198,592	40,881
North Dakota	43	7	6,723	6,194	24,558	-----	(3)	4	3,357	27,919	40,836	22
South Dakota	68	9	9,813	9,458	-----	-----	-----	39	8,946	8,985	28,256	3,457
Total	3,001	334	452,154	220,794	[4] 63,370	(4)	(3)	86,310	[3] 774,819	958,174	1,631,122	327,852

Table 4.—Number of consumers and volume of natural gas consumed by principal uses in the United States [1]—Continued

State by region	Number of consumers (in thousands)		Volume of natural gas, million cubic feet									
					Industrial							
	Residential	Commercial	Residential	Commercial	Field use (pumping, drilling, extraction loss and plant fuel)	Used to produce carbon black	Used as fuel at petroleum refineries	Used as pipeline fuel	All other, including electric utilities	Total industrial	Total consumption	Consumed at electric utilities (included in other industrial use) [2]
South Atlantic:												
Delaware	72	5	6,198	1,542	-----	-----	(3)	-----	[3] 11,305	11,305	19,045	4,246
Florida	329	22	8,409	13,314	175	-----	-----	3,090	187,290	190,555	212,278	97,690
Georgia	668	54	75,414	27,253	-----	-----	(3)	4,960	[3] 125,664	130,624	233,291	464
Maryland and District of Columbia	756	60	68,027	19,454	28	-----	-----	1,417	28,282	29,727	117,208	183
North Carolina	188	27	18,438	9,539	-----	-----	-----	4,059	54,717	58,776	86,753	2,607
South Carolina	203	19	11,603	6,556	-----	-----	-----	2,586	75,692	78,278	96,437	18,195
Virginia	453	49	40,702	18,174	64	-----	-----	6,941	55,821	62,826	121,702	1,738
West Virginia	336	29	52,837	15,895	13,491	-----	230	17,815	82,841	114,377	183,109	892
Total	3,005	265	281,628	111,727	13,758	-----	(3)	40,868	[3] 621,612	676,468	1,069,823	126,015
East South Central:												
Alabama	548	36	47,684	31,628	179	-----	(3)	13,044	[3] 140,563	153,786	233,098	7,022
Kentucky	451	46	54,310	19,025	13,394	-----	(3)	28,124	[3] 45,539	87,057	160,392	943
Mississippi	302	34	29,741	15,753	15,785	-----	(3)	47,665	[3] 177,446	240,896	286,390	57,242
Tennessee	378	47	40,754	31,336	221	-----	(3)	21,922	[3] 131,792	153,935	226,025	22,632
Total	1,679	163	172,489	97,742	29,579	-----	(3)	110,755	[3] 495,340	635,674	905,905	87,839
West South Central:												
Arkansas	361	51	51,848	32,737	[4] 15,036	(4)	10,565	11,363	173,529	210,493	295,078	65,414
Louisiana	784	77	66,946	24,721	238,082	22,100	107,892	54,589	744,446	1,167,109	1,258,776	210,189
Oklahoma	598	63	67,110	28,261	[4] 114,374	(4)	42,217	13,002	225,068	394,661	490,032	147,131
Texas	2,338	244	196,355	88,470	1,030,044	48,541	477,644	67,576	1,801,085	3,424,890	3,709,715	701,237
Total	4,081	435	382,259	174,189	1,397,536	70,641	638,318	146,530	2,944,128	5,197,153	5,753,601	1,123,971
Mountain:												
Arizona	351	34	25,017	17,949	225	-----	-----	19,790	99,339	119,354	162,320	41,348
Colorado	458	57	79,184	41,983	8,830	-----	2,429	1,446	100,024	112,729	233,896	37,713
Idaho	54	9	5,476	4,609	-----	-----	-----	1,544	24,475	26,019	36,104	-----
Montana	127	19	19,690	14,068	7,128	-----	3,858	395	28,690	40,071	73,829	2,977
Nevada	52	3	5,022	3,268	-----	-----	-----	-----	25,928	25,928	34,218	16,379
New Mexico	239	27	29,450	13,988	[4] 85,125	(4)	2,692	21,128	109,535	218,480	261,918	46,598
Utah	231	13	36,164	6,384	4,289	-----	5,891	226	53,520	63,926	106,474	8,542

Wyoming	68	10	11,504	9,609	27,766	-----	9,914	2,033	18,348	58,061	79,174	158
Total	1,580	172	211,507	111,858	[4] 133,363	(4)	24,784	46,562	459,859	664,568	987,933	153,715
Pacific:												
Alaska	8	1	1,794	2,562	-----	-----	-----	-----	6,428	6,428	10,784	3,632
California	5,188	332	496,189	170,954	[4] 130,838	(4)	101,698	29,951	955,248	1,217,735	1,884,878	596,701
Oregon	148	20	12,714	6,577	-----	-----	-----	871	44,931	45,802	65,093	122
Washington	191	91	20,469	12,735	-----	-----	-----	1,404	82,271	83,675	116,879	-----
Total	5,535	444	531,166	192,828	[4] 130,838	(4)	101,698	32,226	1,088,878	1,353,640	2,077,634	600,455
Total United States:												
1966	36,084	3,120	4,138,259	1,622,740	[5] 1,772,708	[5] 91,154	[6] 903,398	535,353	[6] 8,128,099	11,430,712	17,191,711	2,608,768
1965	35,302	2,991	3,902,802	1,443,648	1,909,697	93,296	859,899	500,524	7,323,323	10,686,739	16,033,189	2,318,253

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[1] Includes natural gas which is distributed as component of mixed gas.

[2] Federal Power Commission, preliminary figures.

[3] Included in "All other industrial fuel" to avoid disclosure.

[4] Included in "Field use" to avoid disclosure.

[5] Detail does not add to total. Total figure for "Field use" excludes 20,513 million cubic feet which is included in total figure for "Used to produce carbon black."

[6] Detail does not add to total. Total figure for "Used as fuel at petroleum refineries" includes 27,966 million cubic feet which is excluded in total figure for "All other industrial fuel."

Table 5.—Estimated proved recoverable reserves of natural gas in the United States as of December 31, 1966

(Million cubic feet at 14.73 psia at 60° F)

State	Nonassociated	Associated-dissolved	Underground storage [1]	Total
Alaska	2,744,218	202,644	-----	2,946,862
Arkansas	2,189,451	391,274	18,904	2,599,629
California [2]	3,156,951	5,134,542	182,900	8,474,393
Colorado	1,349,009	284,096	18,301	1,651,406
Illinois	277	31,707	204,509	236,493
Indiana	716	10,013	60,478	71,207
Kansas	15,335,144	493,742	94,389	15,923,275
Kentucky	900,710	60,839	55,458	1,017,007
Louisiana [2]	69,008,001	14,641,223	34,868	83,684,092
Michigan	73,556	118,999	580,576	773,131
Mississippi	1,325,540	336,777	6,546	1,668,863
Montana	383,346	102,239	134,765	620,350
Nebraska	37,838	19,545	15,374	72,757
New Mexico	11,268,334	3,467,704	17,104	14,753,142
New York	27,201	251	93,419	120,871
North Dakota	6,497	1,018,012	-----	1,024,509
Ohio	239,103	94,542	421,570	755,215
Oklahoma	15,787,085	4,180,439	154,667	20,122,191
Pennsylvania	834,085	15,467	501,024	1,350,576
Texas [2]	86,554,104	36,973,478	81,744	123,609,326
Utah	817,040	554,284	901	1,372,225
Virginia	37,586	-----	-----	37,586
West Virginia	2,226,337	60,991	334,909	2,622,237
Wyoming	3,095,306	469,965	28,775	3,594,046
Other States [3]	28,734	19,094	183,588	231,416
Total	217,426,169	68,681,867	3,224,769	289,332,805

[1] Gas held in underground reservoirs (including native and net injected gas) for storage.
[2] Includes offshore reserves.
[3] Includes Alabama, Arizona, Florida, Iowa, Maryland, Missouri, Tennessee, and Washington.

Source: Committee on Natural Gas Reserves, American Gas Association.

Table 6.—Gross withdrawals and disposition of natural gas in the United States

(Million cubic feet)

State	Gross withdrawals			Disposition		
	From gas wells [1]	From oil wells [1]	Total [2]	Marketed production [3]	Repres-suring	Vented and flared [4]
1965:						
Alaska	8,900	3,900	12,800	7,255	5,469	76
Arkansas	57,500	46,500	104,000	82,831	20,155	1,014
California	292,600	612,400	905,000	660,384	238,838	5,778
Colorado	75,400	79,800	155,200	126,381	23,858	4,961
Illinois	1,000	6,500	7,500	7,396	-----	104
Indiana	100	2,300	2,400	239	-----	2,161
Kansas	766,100	40,700	806,800	793,379	117	13,304
Kentucky	72,700	6,400	79,100	78,976	-----	124
Louisiana	3,912,300	852,000	4,764,300	4,466,786	174,951	122,563
Maryland	408	-----	408	408	-----	-----
Michigan	24,700	12,200	36,900	34,558	1,900	442
Mississippi	113,300	84,900	198,200	166,825	21,699	9,676
Montana	22,200	7,600	29,800	28,105	579	1,116
Nebraska	7,200	4,900	12,100	10,720	115	1,265
New Mexico	635,900	320,600	956,500	937,205	10,706	8,589
New York	3,040	300	3,340	3,340	-----	-----
North Dakota	2,800	45,200	48,000	35,652	6,464	5,884
Ohio	30,800	5,100	35,900	35,684	-----	216
Oklahoma	920,300	493,700	1,414,000	1,320,995	57,262	35,743
Pennsylvania	82,100	2,800	84,900	84,461	398	41
Texas	6,052,200	1,688,400	7,740,600	6,636,555	1,001,173	102,872
Utah	45,200	46,900	92,100	71,616	19,794	690
Virginia	3,152	-----	3,152	3,152	-----	-----
West Virginia	204,800	2,700	207,500	207,416	16	68
Wyoming	186,100	72,800	258,900	235,849	20,710	2,341
Other States [5]	2,800	900	3,700	3,585	-----	115
Total	13,523,600	4,439,500	17,963,100	16,039,753	1,604,204	319,143
1966:						
Alaska	27,550	13,879	41,429	11,267	28,613	1,549
Arkansas	63,100	58,479	121,579	105,174	15,196	1,209
California	263,163	614,047	877,210	689,607	181,871	5,732
Colorado	138,224	21,388	159,612	136,667	18,872	4,073
Illinois	3,090	4,370	7,460	7,230	-----	230
Indiana	130	127	257	215	-----	42
Kansas	821,960	29,810	851,770	847,495	1,689	2,586
Kentucky	76,431	230	76,661	76,536	-----	125
Louisiana	4,168,820	1,196,457	5,365,277	5,081,435	182,734	101,108
Maryland	696	-----	696	696	-----	-----
Michigan	26,868	16,121	42,989	34,120	8,353	516
Mississippi	136,990	54,874	191,864	156,652	20,775	14,437
Montana	25,422	6,356	31,778	30,685	320	773
Nebraska	10,096	1,223	11,319	10,196	1,100	23
New Mexico	684,710	338,772	1,023,482	998,076	20,104	5,302
New York	2,659	40	2,699	2,699	-----	-----
North Dakota	10,700	36,455	47,155	46,585	-----	570
Ohio	36,156	7,197	43,353	43,133	-----	220
Oklahoma	1,016,352	411,109	1,427,461	1,351,225	61,132	15,104
Pennsylvania	90,725	640	91,365	90,914	353	98
Texas	5,784,515	2,150,348	7,934,863	6,953,790	871,427	109,646
Utah	45,225	49,785	95,010	69,366	25,486	158
Virginia	4,249	-----	4,249	4,249	-----	-----
West Virginia	210,060	2,340	212,400	211,610	724	66
Wyoming	225,238	41,758	266,996	243,381	19,751	3,864
Other States [5]	2,648	1,060	3,708	3,625	-----	83
Total	13,875,777	5,056,865	18,932,642	17,206,628	1,458,500	267,514

[1] Estimated from the Bureau of Mines annual Supply and Distribution Natural Gas Survey.

[2] Marketed production plus quantities used in repressuring, vented and flared.

[3] Comprises gas sold or consumed by producers, including gas loss due to natural gas liquids recovery, losses in transmission, quantities added to storage, and increase of gas in pipelines.

[4] Partly estimated; includes direct losses on producing properties and residue blown to the air.

[5] Alabama, Arizona, Florida, Missouri, South Dakota, and Tennessee.

Table 7.—Underground storage statistics, December 31, 1966

(Million cubic feet at 14.73 psia at 60° F)

State	Number of pools	Number of active wells	Total gas in storage reservoirs (million cubic feet)	Total reservoir capacity (million cubic feet)
Arkansas	6	27	16,690	20,882
California	6	154	111,410	283,574
Colorado	3	38	10,453	20,879
Illinois	20	791	193,843	386,891
Indiana	23	725	45,229	63,256
Iowa	5	185	114,315	162,395
Kansas	16	745	80,512	103,417
Kentucky	16	598	43,123	63,928
Louisiana	2	44	14,368	104,000
Maryland	1	53	9,572	64,770
Michigan	28	1,929	302,180	621,927
Mississippi	2	23	6,040	6,973
Missouri	1	64	25,338	45,000
Montana	6	168	94,759	163,750
Nebraska	1	14	4,316	39,270
New Mexico	3	34	2,188	57,816
New York	15	892	85,194	109,023
Ohio	17	2,685	328,757	501,413
Oklahoma	11	134	137,535	308,606
Pennsylvania	66	2,090	479,310	706,994
Texas	15	149	63,568	96,641
Utah	1	8	901	1,080
Washington	1	28	1,907	20,000
West Virginia	36	1,275	313,023	406,289
Wyoming	2	8	21,840	62,628
Total	303	12,861	2,506,371	4,421,402

Source: AGA.

Table 8.—Natural gas stored underground in and withdrawn from storage fields

(Million cubic feet)

State	1965 Total stored	1965 Total withdrawn	1965 Net stored	1966 Total stored	1966 Total withdrawn	1966 Net stored
Alabama	166	2	164	394	---	394
Arkansas	1,247	973	274	1,259	852	407
California	64,304	50,070	14,234	45,634	79,417	−33,783
Colorado	5,104	82	5,022	11,284	2,718	8,566
Delaware	568	446	122	832	664	168
Illinois	55,276	35,749	19,527	104,189	84,789	19,400
Indiana	23,884	18,227	5,657	19,363	20,831	−1,468
Iowa	35,092	33,276	1,816	43,587	45,909	−2,322
Kansas	45,860	38,278	7,582	43,887	43,189	698
Kentucky	24,712	17,285	7,427	22,718	27,332	−4,614
Louisiana	---	---	---	31,240	2,303	28,937
Michigan	197,553	189,151	8,402	244,103	214,456	29,647
Mississippi	4,051	4,148	−97	3,930	3,808	122
Missouri	7,150	5,204	1,946	8,034	8,287	−253
Montana	18,876	6,839	12,037	19,812	6,610	13,202
Nebraska	3,749	2,368	1,381	4,246	3,487	759
New Jersey	868	1,536	−668	767	---	767
New Mexico	6,556	9,242	−2,686	586	738	−152
New York	39,638	38,265	1,373	36,553	41,504	−4,951
Ohio	140,530	125,067	15,463	132,647	133,822	−1,175
Oklahoma	24,797	20,712	4,085	33,836	23,527	10,309
Pennsylvania	194,379	200,337	−5,958	201,827	210,732	−8,905
Texas	28,952	19,501	9,451	33,012	23,456	9,556
Utah	843	658	185	1,018	1,154	−136
Virginia	---	---	---	104	148	−44
Washington	---	---	---	408	---	408
West Virginia	147,523	141,150	6,373	156,731	159,249	−2,518
Wisconsin	---	---	---	198	46	152
Wyoming	6,302	1,299	5,003	8,270	2,586	5,684
Total	1,077,980	959,865	118,115	1,210,469	1,141,614	68,855

Table 9.—Value of natural gas at the point of consumption in the United States

State by region	Value (thousand dollars)							Average value (cents per Mcf)						
			Industrial											
	Residential	Commercial	Field use (pumping, drilling, extraction loss, and plant fuel)	Used to produce carbon black	All other, including pipeline fuel and electric utilities	Total	Total consumption	Residential	Commercial	Field use (pumping, drilling, extraction loss, and plant fuel)	Used to produce carbon black	All other including electric utilities	Total	Total consumption
New England:														
Connecticut	46,039	11,490	------	------	14,171	14,171	71,700	185.2	156.2	------	------	91.5	91.5	150.3
Massachusetts	126,550	28,335	------	------	21,817	21,817	176,702	190.8	153.0	------	------	69.6	69.6	152.1
New Hampshire, Vermont, and Maine	6,749	2,084	------	------	994	994	9,827	199.9	158.6	------	------	113.3	113.3	176.5
Rhode Island	17,229	3,989	------	------	4,118	4,118	25,336	185.1	161.4	------	------	84.0	84.0	151.9
Total	196,567	45,898	------	------	41,100	41,100	283,565	189.2	154.7	------	------	78.1	78.1	152.3
Middle Atlantic:														
New Jersey	235,033	33,996	------	------	45,145	45,145	314,174	191.7	150.5	------	------	55.0	55.0	138.2
New York	479,389	150,380	119	------	114,483	114,602	744,371	147.8	127.6	24.4	------	60.5	60.4	117.8
Pennsylvania	314,787	66,807	816	------	169,657	170,473	552,067	114.6	90.6	40.6	------	51.9	51.9	81.5
Total	1,029,209	251,183	935	------	329,285	330,220	1,610,612	142.6	117.3	37.4	------	55.1	55.0	104.8
East North Central:														
Illinois	358,880	100,540	2,200	------	135,896	138,096	597,516	101.3	62.4	16.1	------	41.8	40.8	70.0
Indiana	115,962	39,477	2	------	94,823	94,825	250,264	94.7	82.4	22.2	------	41.3	41.3	62.6
Michigan	281,766	78,960	1,823	------	118,844	120,667	481,393	98.2	82.9	29.9	------	51.3	53.0	77.7
Ohio	372,868	102,530	829	------	197,910	198,739	674,137	85.9	75.1	33.1	------	53.2	53.1	71.4
Wisconsin	97,740	26,695	------	------	56,721	56,721	181,156	116.5	92.3	------	------	50.7	50.7	80.6
Total	1,227,216	348,202	4,854	------	604,194	609,048	2,184,466	95.8	74.1	21.8	------	47.6	47.1	71.8
West North Central:														
Iowa	72,930	27,412	------	------	42,710	42,710	143,052	92.9	65.6	------	------	35.8	35.8	59.7
Kansas	51,436	14,295	4,899	------	84,157	89,056	154,787	58.7	44.3	14.0	------	23.8	23.0	30.5
Minnesota	90,467	25,921	------	------	49,679	49,679	166,067	104.2	73.6	------	------	34.9	34.9	62.8
Missouri	109,749	36,336	------	------	47,328	47,328	193,413	84.6	55.1	------	------	30.3	30.3	55.0
Nebraska	42,685	16,724	652	------	31,958	32,610	92,019	80.7	55.9	16.7	------	28.6	28.2	46.3
North Dakota	6,257	4,060	3,453	------	1,223	4,676	14,993	93.1	65.5	14.1	------	36.4	16.7	36.7
South Dakota	9,907	5,653	------	------	2,848	2,848	18,408	101.0	59.8	------	------	31.7	31.7	65.1
Total	383,431	130,401	9,004	------	259,903	268,907	782,739	84.5	59.1	14.2	------	29.0	28.1	48.0

Table 9.—Value of natural gas at the point of consumption in the United States—Continued

State by region	Value (thousand dollars)							Average value (cents per Mcf)						
			Industrial											
	Residential	Commercial	Field use (pumping, drilling, extraction loss, and plant fuel)	Used to produce carbon black	All other, including pipeline fuel and electric utilities	Total	Total consumption	Resi-dential	Com-mercial	Field use (pumping, drilling, extraction loss, and plant fuel)	Used to produce carbon black	All other including electric utilities	Total	Total consump-tion
South Atlantic:														
Deleware	10,118	2,005	------	------	3,768	3,768	15,891	163.2	130.0	------	------	33.3	33.3	83.4
Florida	18,601	13,926	30	------	64,815	64,845	97,372	221.2	104.6	17.1	------	34.0	34.0	45.9
Georgia	73,152	18,723	------	------	69,793	69,793	161,668	97.0	68.7	------	------	53.4	53.4	69.3
Maryland	[1] 99,592	[1] 27,819	12	------	[1] 20,804	[1] 20,816	[1] 148,227	[1] 146.4	[1] 144.0	42.9	------	[1] 70.0	[1] 70.0	[1] 126.5
North Carolina	22,964	10,383	------	------	23,771	23,771	57,118	124.5	108.8	------	------	40.4	40.4	65.8
South Carolina	15,792	6,477	------	------	31,213	31,213	53,482	136.1	98.8	------	------	39.9	39.9	55.5
Virginia	60,320	19,319	19	------	29,129	29,148	108,787	148.2	106.3	29.7	------	46.4	46.4	89.4
West Virginia	44,602	11,085	2,244	------	44,112	46,356	102,043	84.4	69.7	16.6	------	40.5	40.5	55.7
Total	345,141	109,737	2,305	------	287,405	289,710	744,588	122.6	98.2	16.8	------	43.3	42.8	69.6
East South Central:														
Alabama	52,465	16,883	71	------	46,307	46,378	115,726	110.0	53.4	39.7	------	30.1	34.0	49.6
Kentucky	43,502	12,899	2,434	------	26,045	28,479	84,880	80.1	67.8	18.2	------	35.4	37.7	52.9
Mississippi	25,934	7,593	2,718	------	52,642	55,360	88,887	87.2	48.2	17.2	------	23.4	23.0	31.0
Tennessee	36,760	22,280	53	------	50,389	50,442	109,482	90.2	71.1	24.0	------	32.8	32.8	48.4
Total	158,661	59,655	5,276	------	175,383	180,659	398,975	92.0	61.0	17.8	------	28.9	29.3	44.0
West South Central:														
Arkansas	36,708	14,535	1,330	------	50,172	51,502	102,745	70.8	44.4	8.8	------	25.7	24.5	34.8
Louisiana	48,938	11,396	51,046	3,486	223,424	277,956	338,290	73.1	46.1	21.4	15.8	24.3	23.5	26.9
Oklahoma	51,734	14,692	16,253	------	63,232	79,485	145,911	77.1	52.0	14.2	------	22.6	20.1	29.8
Texas	166,509	48,216	206,537	6,598	450,165	663,300	878,025	84.8	54.5	20.1	13.6	18.9	19.2	23.7
Total	303,889	88,839	275,166	10,084	786,993	1,072,243	1,464,971	79.5	51.0	19.7	14.3	20.8	20.4	25.5
Mountain:														
Arizona	23,561	10,069	27	------	40,159	40,186	73,816	94.2	56.1	12.0	------	33.7	33.7	45.5
Colorado	46,918	20,760	1,277	------	25,365	26,642	94,320	59.3	49.4	14.5	------	24.4	23.6	40.3
Idaho	7,084	4,336	------	------	9,831	9,831	21,251	129.4	94.1	------	------	37.8	37.8	58.9
Montana	15,329	7,639	863	------	10,000	10,863	33,831	77.9	54.3	12.1	------	30.4	27.1	45.8
Nevada	6,868	2,847	------	------	11,495	11,495	21,210	136.8	87.1	------	------	44.3	44.3	62.0
New Mexico	23,118	8,085	10,172	(2)	32,842	43,014	74,217	78.5	57.8	11.9	------	24.6	19.7	28.3
Utah	24,938	3,447	570	------	17,018	17,588	45,973	69.0	54.0	13.3	------	28.5	27.5	43.2
Wyoming	7,466	4,170	3,701	------	6,890	10,591	22,227	64.9	43.4	13.3	------	22.7	18.2	28.1
Total	155,282	61,353	16,610	(2)	153,600	170,210	386,845	73.4	54.8	12.5	------	28.9	25.6	39.2

Pacific:														
Alaska	2,695	2,457	------	------	2,171	2,171	7,323	150.2	95.9	------	------	33.8	33.8	67.9
California	463,018	117,341	40,060	(2)	385,473	425,533	1,005,892	93.3	68.6	30.6	------	35.5	34.9	53.4
Oregon	20,317	9,168	------	------	19,188	19,188	48,673	159.8	139.3	------	------	41.9	41.9	74.8
Washington	31,951	14,143	------	------	31,207	31,207	77,301	155.7	115.7	------	------	37.3	37.3	66.1
Total	517,981	143,109	40,060	(2)	438,039	478,099	1,139,189	97.5	74.2	30.6	------	35.8	35.3	54.8
Total United States:														
1966	4,317,377	1,238,377	[2] 351,125	[2] 13,169	[3] 3,075,902	3,440,196	8,995,950	104.3	76.3	19.8	14.4	32.0	30.1	52.3
1965	4,091,324	1,115,403	336,107	13,616	2,811,188	3,160,911	8,367,638	104.8	77.3	17.6	15.6	38.4	29.6	52.2

[1] District of Columbia included with Maryland to avoid disclosure.

[2] Detail does not add to total. Total figures for "Field use" excludes 3,085 thousand dollars which is included in total figure for "Used to produce carbon black."

[3] Includes 97,761 thousand dollars "Used as pipeline fuel."

Table 10.—Gas wells and condensate wells in the United States

State	Completed during 1965 [1]	Producing Dec. 31, 1965	Completed during 1966 [1]	Producing Dec. 31, 1966
Alabama	---	---	---	---
Alaska	13	11	5	19
Arizona	---	8	---	9
Arkansas	44	744	56	818
California	62	1,033	63	1,068
Colorado	53	701	53	826
Illinois	8	25	3	3
Indiana	10	275	12	275
Kansas	206	7,200	130	8,608
Kentucky	177	6,100	168	6,020
Louisiana	542	8,563	500	8,977
Maryland	1	20	3	8
Michigan	36	226	44	250
Mississippi	15	370	41	376
Missouri	---	11	---	11
Montana	10	784	11	784
Nebraska	1	39	1	37
New Mexico	303	8,010	342	8,017
New York	18	1,150	19	1,164
North Dakota	---	31	---	31
Ohio	263	7,100	236	6,990
Oklahoma	549	7,447	561	7,841
Pennsylvania	286	17,516	306	17,808
Tennessee	3	20	1	20
Texas	1,343	23,748	1,170	23,907
Utah	27	148	7	156
Virginia	1	99	---	104
West Virginia	695	19,600	594	20,830
Wyoming	58	701	51	741
Total	4,724	111,680	4,377	115,698

[1] Source: Oil and Gas Journal.

Table 11.—Marketed production of natural gas by countries [1] at 60°F (15.56°C) and normal atmospheric pressure

(Million cubic feet)

Country [1]	1962	1963	1964	1965	1966 [p] [2]
North America:					
Barbados	120	128	94	102	NA
Canada	946,703	1,111,478	1,317,718	1,324,149	1,430,066
Mexico [3]	392,444	[r] 424,371	[r] 512,596	[r] 521,160	529,128
Trinidad	30,018	29,865	38,452	[r] 41,456	53,406
United States	[r] 13,801,244	[r] 14,666,559	[r] 15,462,143	16,039,753	17,116,795
South America:					
Argentina	110,090	[r] 132,367	[r] 144,564	[r] 157,579	NA
Bolivia	[3] 5,110	[4] 4,072	[4] 4,381	[4] 3,649	[4] 4,010
Brazil [3]	19,082	18,801	19,844	25,495	29,429
Chile [3]	132,844	192,402	235,166	231,931	248,297
Colombia	[r] 17,823	[r] 17,243	[r] 26,919	14,492	NA
Peru	35,151	37,353	45,134	44,335	44,051
Venezuela	214,254	230,190	250,902	264,002	278,930
Europe:					
Austria	61,013	63,406	65,827	64,829	69,920
Czechoslovakia	187,533	206,939	215,859	228,809	NA
France	176,886	181,375	189,623	[r] 184,622	192,123
Germany, West	23,007	[r] 33,480	[r] 52,539	[r] 80,928	[3] 105,050
Hungary [3]	12,692	[r] 22,816	[r] 29,275	[r] 41,313	57,958
Italy	266,860	271,227	286,778	291,187	328,256
Netherlands (deliveries)	16,981	20,041	28,550	60,496	124,611
Poland	29,531	35,275	45,930	[r] 51,419	51,356
Rumania	329,805	376,970	426,073	480,179	525,433
U.S.S.R.	2,806,464	3,414,780	4,051,683	[r] 4,764,495	5,392,890
United Kingdom	115	[r] 200	[r] 200	[r] 176	NA
Yugoslavia	3,557	7,131	10,224	12,317	15,014
Africa:					
Algeria (Sahara)	13,189	14,902	29,994	65,038	76,853
Gabon, Republic of	328	321	353	[r] 397	429
Morocco	369	436	443	425	411
Nigeria [3]	17,179	22,106	36,333	79,438	102,677
Tunisia	262	272	293	301	312
Asia:					
Brunei	2,990	7,390	6,460	[r] 7,870	NA
Burma [3]	672	597	NA	NA	NA
Indonesia [3]	101,212	104,421	[r] 131,508	[r] 76,650	NA
Iran	107,161	108,511	122,485	128,682	NA
Israel	284	366	1,069	2,705	3,562
Japan [3]	45,122	63,243	69,368	[r] 66,431	68,173
Kuwait	65,867	72,305	71,076	68,314	[e] 98,000
Pakistan	42,076	49,459	59,100	67,000	NA
Taiwan	1,433	1,890	6,322	11,557	16,590
Oceania:					
Australia	56	96	106	144	143
New Zealand	4	3	5	5	4

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Natural gas is produced in China, mainland, Ecuador, and India and Iraq, but there is no recent information available.

[2] Compiled mostly from data available July 1967.

[3] Total production.

[4] Commercial production which is processed for domestic fuels and for exports.

Note: The data relate, as far as possible, to natural gas actually collected and utilized as fuel or raw material. They exclude gas used for repressuring, as well as gas flared, vented, or otherwise wasted, whether or not it has first been processed for the extraction of natural gasoline.

For countries reporting in the metric system, the following conversion factor will be used:

m^3 at 32°F. (0°C.) × 37.32 = $ft.^3$ at 60°F.

($ft.^3$ at 60°F. × 0.026795 = m^3 at 32°F.)

Table 1.—Production, stock change, and shipments of natural gas liquids and liquefied refinery gases in the United States
(Thousand gallons)

Product	Production		Net change in stocks		Deliveries to refineries		Shipments for fuel and chemical use	
	1965	1966	1965	1966	1965	1966	1965	1966
Natural gas liquids:								
Ethane	1,115,834	1,250,068	2,002	52,714	--------	--------	1,113,832	1,197,354
Liquefied petroleum gases:								
Propane	5,707,503	6,275,665	—122,742	205,017	75,348	111,636	5,754,897	5,959,012
Butane	2,607,003	2,942,344	104,753	—63,253	1,663,972	1,542,593	838,278	1,463,004
Butane–propane mixture	375,136	552,622	—18,459	10,254	80,220	128,352	313,375	414,016
Isobutane	1,029,298	1,113,595	67,514	23,250	961,784	1,090,345	--------	--------
Other mix	422,493	NA	—3,335	NA	36,960	NA	388,868	NA
Total	10,141,433	10,884,226	27,731	175,268	2,818,284	2,872,926	[1] 7,295,418	[1] 7,836,032
Isopentane	101,523	102,070	—718	—90	102,241	102,160	--------	--------
Natural gasoline:								
12 pounds and less	2,021,290	2,278,676	19,946	—7,774	2,001,344	2,286,450	--------	--------
13 to 14 pounds	753,627	814,954	3,875	—7,058	749,752	822,012	--------	--------
15 to 18 pounds	554,292	536,995	180	—792	554,112	537,787	--------	--------
19 to 22 pounds	102,051	101,500	40	—15	102,011	101,515	--------	--------
Over 23 pounds including 26 pounds	561,834	388,389	764	2,953	561,070	385,436	--------	--------
27 and over	1,362,750	1,341,555	7,608	—15,576	1,355,142	1,357,131	--------	--------
Total	5,355,844	5,462,069	32,413	—28,262	5,323,431	5,490,331	--------	--------
Plant condensate	1,198,477	1,419,111	717	—1,740	1,197,760	1,420,851	--------	--------
Finished and other:								
Finished gasoline	434,006	375,335	—13,646	52	--------	--------	447,652	375,283
Special naphthas	5,261	4,800	—40	—201	--------	--------	5,301	5,001
Jet fuel	4,566	1,955	—122	—252	--------	--------	4,688	2,207
Kerosine	51,326	53,886	—3,560	2,343	--------	--------	54,886	51,543
Distillate fuel oil	14,775	47,957	—268	407	--------	--------	15,043	47,550
Other	122,292	81,245	19	—786	--------	--------	122,273	82,031
Total	632,226	565,178	—17,617	1,563	--------	--------	649,843	563,615
Total	18,545,337	19,682,722	44,528	199,453	9,441,716	9,886,268	9,059,093	9,597,001

Liquefied refinery gases:								
For fuel:								
Liquefied gases:								
Propane-propylene	1,931,874	2,115,078	—10,332	19,656	--------	--------	1,942,206	2,095,422
Butane butylene	268,506	292,992	—2,394	—5,250	--------	--------	270,900	298,242
Butane-propane mixture	99,414	115,710	378	—1,218	--------	--------	99,036	116,928
Isobutane	--------	--------	--------	--------	--------	--------	--------	--------
Other mix	57,456	NA	1,512	NA	--------	--------	55,944	NA
Total	2,357,250	2,523,780	—10,836	13,188	--------	--------	2,368,086	2,510,592
For petrochemical feedstocks:								
Ethane—ethylene	379,470	316,806	8,190	—15,246	--------	--------	371,280	332,052
Liquefied gases:								
Propane-propylene	537,894	778,050	1,890	—1,554	--------	--------	536,004	779,604
Butane butylene	198,870	487,032	126	504	--------	--------	198,744	486,528
Butane-propane mixture	120,582	329,364	--------	—10,584	--------	--------	120,582	339,948
Isobutane	21,546	26,124	1,470	—126	--------	--------	20,076	26,250
Other mix	871,500	NA	—1,974	NA	--------	--------	873,474	NA
Total	1,750,392	1,620,570	1,512	—11,760	--------	--------	1,748,880	1,632,330
Total LR gases	4,487,112	4,461,156	—1,134	—13,818	--------	--------	4,488,246	4,474,974
Total ethane and LP gases	15,744,379	16,595,450	28,599	214,164	2,818,284	2,872,926	12,897,496	13,508,360
Total all products	23,032,449	24,143,878	43,394	185,635	9,441,716	9,886,268	13,547,339	14,071,975

NA Not Available.

[1] In addition 317,226 thousand gallons were imported in 1965 and 440,538 thousand gallons in 1966.

Note: 1965 and 1966 data for liquefied gases are not strictly comparable due to the reclassification of other mix in 1966 according to its components.

Table 2.—Estimated proved recoverable reserves of natural gas liquids [1] in the United States

(Thousand barrels)

State	Reserves as of Dec. 31, 1965	Changes in reserves during 1966			Reserves as of December 31, 1966		
		Extensions and revisions	Discoveries of new fields and new pools	Net production	Nonassociated with oil	Associated - dissolved	Total
Arkansas	14,756	3,138	--------	1,720	10,536	5,638	16,174
California [2]	262,802	2,702	15	23,356	8,807	233,356	242,163
Colorado	23,668	4,323	158	2,502	6,330	19,317	25,647
Illinois	3,012	347	34	523	1	2,869	2,870
Indiana	85	—10	5	17	4	59	63
Kansas	200,317	70,622	371	14,462	246,500	10,348	256,848
Kentucky	54,616	653	326	3,301	[3] 52,294	--------	52,294
Louisiana [2]	2,168,802	232,871	37,582	156,861	1,904,824	377,570	2,282,394
Michigan	4,916	—214	164	825	984	3,057	4,041
Mississippi	27,014	—8,838	881	2,042	11,662	5,353	17,015
Montana	9,988	1,471	--------	821	2,322	8,316	10,638
Nebraska	3,664	—814	--------	376	1,204	1,270	2,474
New Mexico	542,831	52,764	1,241	37,053	392,689	167,094	559,783
North Dakota	66,140	4,271	--------	3,437	--------	66,974	66,974
Ohio	1,500	--------	--------	207	--------	1,293	1,293
Oklahoma	358,297	147,444	12,657	42,793	305,767	169,838	475,605
Pennsylvania	1,311	--------	--------	76	1,235	--------	1,235
Texas [2]	4,059,557	253,923	70,369	282,227	2,159,486	1,942,136	4,101,622
Utah	51,358	—7,059	--------	1,591	741	41,967	42,708
West Virginia	75,008	8,657	4,329	7,234	[3] 80,760	--------	80,760
Wyoming	93,892	—435	168	7,260	43,115	43,250	86,365
Total	8,023,534	765,816	128,300	588,684	5,229,261	3,099,705	8,328,966

[1] Comprises natural gasoline, LP gases and condensate.
[2] Includes offshore reserves.
[3] Not allocated by types but occurring principally in column shown.
Source: Committee on Natural Gas Reserves, American Gas Association.

Table 3.—Natural gas liquids and ethane produced, value at plants in the United States in 1966, by States

State	Number of operators [1]	LP gases and ethane			Natural gasoline and isopentane			Plant condensate		
		Thousand gallons	Thousand dollars	Cents per gallon	Thousand gallons	Thousand dollars	Cents per gallon	Thousand gallons	Thousand dollars	Cents per gallon
Arkansas	5	64,664	$3,233	5.0	25,499	$1,555	6.1	4,617	$271	5.9
California	18	353,164	17,304	4.9	607,286	46,154	7.6	27,352	2,216	8.1
Colorado	8	73,390	3,596	4.9	59,420	3,565	6.0	--------	--------	---
Kansas	13	664,164	25,902	3.9	168,615	9,105	5.4	6,217	280	4.5
Kentucky [2]	4	556,895	28,959	5.2	34,345	2,473	7.2	293	21	7.2
Louisiana	40	1,469,716	72,016	4.9	805,681	53,981	6.7	357,257	25,723	7.2
Michigan	5	79,719	4,385	5.5	15,703	1,099	7.0	--------	--------	---
Mississippi	6	18,621	987	5.3	21,082	1,307	6.2	2,355	151	6.4
Montana [3]	5	60,680	2,372	3.9	26,932	1,643	6.1	--------	--------	---
Nebraska	3	19,670	1,141	5.8	9,195	653	7.1	--------	--------	---
New Mexico	15	816,202	31,832	3.9	327,420	18,990	5.8	9,164	596	6.5
North Dakota	3	91,884	3,859	4.2	22,651	1,382	6.1	549	33	6.0
Oklahoma	37	986,254	44,381	4.5	505,330	30,825	6.1	67,996	4,692	6.9
Pennsylvania	3	1,863	121	6.5	3,211	186	6.6	--------	--------	---
Texas	81	6,359,870	260,755	4.1	2,805,717	185,177	6.6	926,123	72,238	7.8
West Virginia [4]	7	351,458	19,072	5.4	43,880	2,896	6.6	3,173	146	4.6
Wyoming	14	166,080	7,308	4.4	82,172	5,341	6.5	14,015	925	6.6
Total	155	12,134,294	527,223	4.3	5,564,139	366,332	6.6	1,419,111	107,292	7.6

State	Finished gasoline and naphtha			Other products [5]			Total		
	Thousand gallons	Thousand dollars	Cents per gallon	Thousand gallons	Thousand dollars	Cents per gallon	Thousand gallons	Thousand dollars	Cents per gallon
Arkansas	--------	--------	---	1,934	$97	5.0	96,714	$5,156	5.3
California	--------	--------	---	--------	--------	---	987,802	65,674	6.6
Colorado	--------	--------	---	--------	--------	---	132,810	7,161	5.4
Kansas	--------	--------	---	221	14	6.5	839,217	35,301	4.2
Kentucky [2]	--------	--------	---	--------	--------	---	591,533	31,453	5.3
Louisiana	256,619	24,122	9.4	142,518	9,976	7.0	3,031,791	185,818	6.1
Michigan	--------	--------	---	--------	--------	---	95,422	5,484	5.7
Mississippi	--------	--------	---	328	25	7.5	42,386	2,470	5.8
Montana [3]	--------	--------	---	--------	--------	---	87,612	4,015	4.6
Nebraska	--------	--------	---	--------	--------	---	28,865	1,794	6.2
New Mexico	--------	--------	---	2,148	150	7.0	1,154,934	51,568	4.5
North Dakota	--------	--------	---	--------	--------	---	115,084	5,274	4.6
Oklahoma	578	38	6.6	2,220	160	7.2	1,562,378	80,096	6.9
Pennsylvania	--------	--------	---	--------	--------	---	5,074	307	6.1
Texas	122,938	9,220	7.5	35,489	2,697	7.6	10,250,137	530,087	5.2
West Virginia [4]	--------	--------	---	--------	--------	---	398,511	22,114	5.5
Wyoming	--------	--------	---	185	15	7.9	262,452	13,589	5.2
Total	380,135	33,380	8.8	185,043	13,134	7.1	19,682,722	1,047,361	5.3

[1] A producer operating in more than 1 state is counted but once in arriving at United States total.
[2] Illinois (1 operator) included with Kentucky.
[3] Utah (3 operators) included with Montana.
[4] Florida (1 operator) included with West Virginia.
[5] Includes kerosine, jet fuel, distillate fuel, etc.

Table 4.—Production of natural gas liquids and ethane at natural gas processing plants in the United States in 1966, by States and districts [1]

(Thousand gallons)

States by petroleum districts	January	February	March	April	May	June	July	August	September	October	November	December	Total
District 1:													
Western Pennsylvania	248	336	341	388	402	511	501	571	558	443	416	359	5,074
West Virginia and Florida	36,765	31,412	34,822	34,785	32,011	31,287	32,462	35,770	33,542	36,081	27,343	32,231	398,511
Total	37,013	31,748	35,163	35,173	32,413	31,798	32,963	36,341	34,100	36,524	27,759	32,590	403,585
District 2:													
Illinois and Kentucky	50,027	47,537	52,273	51,495	51,089	49,159	50,084	50,830	48,165	42,024	47,571	51,279	591,533
Michigan	8,308	7,726	6,911	8,365	8,265	7,093	7,111	8,135	7,447	7,646	8,971	9,444	95,422
Kansas	83,994	79,581	81,371	83,598	74,228	72,050	61,949	59,679	48,095	60,732	62,558	71,382	839,217
Nebraska	2,444	2,321	2,410	2,485	2,435	2,351	2,402	2,402	2,286	2,553	2,516	2,260	28,865
North Dakota	9,837	8,962	8,866	9,081	9,104	9,516	9,584	9,944	8,936	10,332	10,625	10,297	115,084
Oklahoma	129,641	122,545	132,555	129,691	127,421	125,078	122,230	130,616	125,398	137,772	137,589	141,842	1,562,378
Total	284,251	268,672	284,386	284,715	272,542	265,247	253,360	261,606	240,327	261,059	269,830	286,504	3,232,499
District 3:													
Arkansas	8,863	7,810	8,192	7,709	8,401	7,778	8,164	8,116	7,836	7,899	7,737	8,209	96,714
Louisiana:													
Gulf	185,527	179,025	194,699	193,385	195,446	187,977	192,276	193,186	189,315	216,973	218,065	222,549	2,368,423
Inland	65,348	60,464	67,157	49,205	51,816	50,030	47,346	52,120	53,298	54,472	54,711	57,401	663,368
Total	250,875	239,489	261,856	242,590	247,262	238,007	239,622	245,306	242,613	271,445	272,776	279,950	3,031,791
Mississippi and Alabama	3,564	3,211	3,137	3,079	3,865	3,756	3,907	3,951	3,724	3,522	3,442	3,228	42,386
New Mexico	90,818	83,778	94,030	92,675	111,200	97,837	98,489	99,018	92,992	99,779	94,866	99,452	1,154,934
Texas:													
Gulf	172,865	151,846	170,967	162,607	167,133	166,144	173,154	173,472	169,548	176,500	173,226	180,270	2,037,732
West	247,755	233,440	266,043	265,389	278,920	274,398	291,960	288,219	295,995	302,184	289,793	290,675	3,324,771
East (field)	17,766	16,260	18,787	18,868	20,386	20,499	21,087	20,604	19,634	19,780	19,067	19,842	232,580
Panhandle	129,137	121,484	125,820	124,993	126,131	115,069	116,926	119,325	112,042	123,419	125,500	126,226	1,466,072
Rest of State (other)	264,147	239,047	266,634	272,355	266,666	255,206	267,548	269,598	257,278	270,233	270,117	290,153	3,188,982
Total	831,670	762,077	848,251	844,212	859,236	831,316	870,675	871,218	854,497	892,116	877,703	907,166	10,250,137
Total	1,185,790	1,096,365	1,215,466	1,190,265	1,229,964	1,178,694	1,220,857	1,227,609	1,201,662	1,274,761	1,256,524	1,298,005	14,575,962
District 4:													
Colorado	11,554	10,396	11,831	11,676	11,331	10,795	10,689	11,516	10,587	11,320	10,731	10,384	132,810
Montana and Utah	6,667	5,812	7,631	7,008	7,462	8,064	7,640	8,166	7,486	7,359	7,490	6,827	87,612
Wyoming	21,973	20,280	22,013	20,522	21,168	20,814	20,774	20,206	21,492	23,817	23,885	25,508	262,452
Total	40,194	36,488	41,475	39,206	39,961	39,673	39,103	39,888	39,565	42,496	42,106	42,719	482,874
District 5:	86,892	80,007	83,807	78,396	78,638	77,190	85,589	85,118	80,282	82,227	84,009	85,647	987,802
Grand total	1,634,140	1,513,280	1,660,297	1,627,755	1,653,518	1,592,602	1,631,872	1,650,562	1,595,936	1,697,067	1,680,228	1,745,465	19,682,722

[1] Western Pennsylvania separated from eastern part of State to allow grouping in either Bureau of Mines refinery district or Petroleum Administration for Defense district. Districts shown for Texas and Louisiana are Bureau of Mines production districts. These districts are described under the heading "Districts".

Table 5.—Production of natural gas liquids at natural gas processing plants, and disposition of residue gas in the United States, by States

(Million cubic feet at 14.73 psia at 60° F. unless otherwise stated)

State	Total natural gas liquids and ethane production (thousand gallons)	Natural gas processed	Extraction loss (shrinkage)	Disposition of residue gas					Total residue gas
				Used at plants	Returned to formation	Vented or flared	Returned to producer	To other companies	
1965:									
Arkansas	97,539	120,499	4,602	3,842	17,979	32	357	93,687	115,897
California	994,862	516,232	35,943	32,415	168,991	284	103,303	175,296	480,289
Colorado	145,579	133,640	5,251	4,426	20,859	5	12,176	90,923	128,389
Kansas	740,901	819,390	19,635	7,046	------	60	220,642	572,007	799,755
Kentucky [1] [2]	598,117	529,000	36,740	4,430	------	----	439,096	48,734	492,260
Louisiana	2,721,874	2,870,052	72,437	48,335	159,866	1,201	150,238	2,437,975	2,797,615
Michigan	85,353	130,342	2,827	1,841	5,242	----	12	120,420	127,515
Mississippi	48,732	64,809	1,498	2,217	20,630	164	8,401	31,899	63,311
Montana [3]	92,554	41,053	2,985	3,888	8,741	26	2,964	22,449	38,068
Nebraska	24,768	11,905	1,541	586	115	----	2,821	6,842	10,364
New Mexico	1,117,798	858,756	37,533	39,038	13,204	11,905	123,237	633,839	821,223
North Dakota	106,233	39,775	5,927	5,294	------	1,629	19,670	7,255	33,848
Oklahoma	1,464,794	920,391	46,083	40,437	45,698	2,064	101,502	684,607	874,308
Pennsylvania	2,705	1,686	119	9	52	----	27	1,479	1,567
Texas	9,620,072	6,201,909	454,545	270,793	830,758	20,168	966,132	3,659,513	5,747,364
West Virginia [4]	435,032	324,337	16,007	1,618	------	----	125,546	181,166	308,330
Wyoming	238,424	188,325	9,800	7,324	18,595	1,754	12,775	138,077	178,525
Total	18,545,337	13,772,101	753,473	473,539	1,310,730	39,292	2,288,899	8,906,168	13,018,628
1966:									
Arkansas	96,714	112,996	4,963	4,935	15,196	27	306	87,569	108,033
California	987,802	517,798	37,912	29,920	129,877	188	113,836	206,065	479,886
Colorado	132,810	129,891	4,889	4,215	13,666	53	11,659	95,409	125,002
Kansas	839,217	1,193,190	27,607	7,045	------	108	376,946	781,484	1,165,583
Kentucky [1] [2]	591,533	481,833	35,143	2,438	------	----	413,370	30,882	446,690
Louisiana	3,031,791	3,660,634	87,294	53,562	144,515	953	103,314	3,270,996	3,573,340
Michigan	95,422	164,264	2,943	2,232	8,353	----	6	150,730	161,321
Mississippi	42,386	56,731	1,422	1,738	17,275	248	7,246	28,802	55,309
Montana [3]	87,612	40,116	2,799	3,550	8,010	21	3,539	22,197	37,317
Nebraska	28,865	14,233	2,043	829	------	----	3,023	8,338	12,190
New Mexico	1,154,934	873,571	39,861	37,485	15,829	8,447	116,595	655,354	833,710
North Dakota	115,084	41,596	6,225	6,368	------	515	19,913	8,575	35,371
Oklahoma	1,562,378	1,020,633	48,655	46,349	49,511	1,089	135,810	739,219	971,978
Pennsylvania	5,074	3,138	172	13	50	----	862	2,041	2,966
Texas	10,250,137	7,621,201	506,357	347,809	941,626	26,529	1,155,335	4,643,545	7,114,844
West Virginia [4]	398,511	301,671	14,733	1,424	------	----	108,490	177,024	286,938
Wyoming	262,452	241,525	11,391	8,090	6,851	230	35,007	179,956	230,134
Total	19,682,722	16,475,021	834,409	558,002	1,350,759	38,408	2,605,257	11,088,186	15,640,612

[1] Includes gas from transmission lines previously processed in another State.
[2] Illinois included with Kentucky.
[3] Utah included with Montana.
[4] Florida included with West Virginia.

Table 6.—Production, stock change and shipments of natural gas liquids at plants and terminals in the United States in 1966, by months

(Thousand gallons)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Production:													
Ethane	98,970	89,233	97,639	98,934	100,772	98,445	106,907	105,508	104,049	112,926	118,225	118,460	1,250,068
LP gases:													
Propane	541,440	501,767	534,375	519,989	516,369	489,676	495,859	514,247	502,387	544,385	540,465	574,706	6,275,665
Butane	245,742	220,929	235,211	245,577	267,028	237,178	234,904	248,774	236,628	255,855	250,771	263,747	2,942,344
Butane-propane mixture	48,077	49,857	54,399	44,683	44,205	44,401	46,979	42,960	41,972	43,243	44,353	47,493	552,622
Isobutane	94,816	84,717	93,251	89,868	84,372	85,657	88,688	91,731	96,233	99,400	101,124	103,738	1,113,595
Isopentane	8,271	7,178	8,133	8,133	8,428	7,176	8,198	8,521	8,868	9,854	9,548	9,762	102,070
Natural gasoline	429,405	407,943	464,751	453,013	468,534	470,190	487,009	475,605	444,706	459,549	448,973	452,391	5,462,069
Plant condensate	117,433	105,847	123,293	120,946	114,461	113,778	116,609	118,710	115,339	125,970	121,155	125,570	1,419,111
Finished gasoline and naphthas	34,957	31,684	32,938	32,172	33,595	30,724	31,921	28,868	29,635	30,695	29,562	33,384	380,135
Other finished products	15,029	14,125	16,307	14,440	15,754	15,377	14,798	15,638	16,119	15,190	16,052	16,214	185,043
Total	1,634,140	1,513,280	1,660,297	1,627,755	1,653,518	1,592,602	1,631,872	1,650,562	1,595,936	1,697,067	1,680,228	1,745,465	19,682,722
Stock change at plants and terminals	—291,428	—172,585	+58,822	+170,511	+247,528	+212,860	+205,810	+182,423	+83,403	—14,918	—189,809	—293,164	+199,453
Shipments:													
To refineries:													
LP gases:													
Propane	4,326	7,434	22,596	18,396	16,674	6,216	7,896	6,384	4,956	4,242	7,518	4,998	111,636
Butane	206,010	129,108	108,743	81,275	75,881	75,831	94,891	104,632	126,779	167,866	183,796	187,781	1,542,593
Butane-propane mixture	12,054	8,064	14,070	11,046	8,904	8,946	9,450	9,576	10,038	11,382	15,414	9,408	128,352
Isobutane	89,208	80,934	77,485	85,759	79,057	89,355	85,457	92,096	89,857	98,456	100,796	121,885	1,090,345
Isopentane	8,302	7,148	8,124	8,210	8,336	7,256	8,165	8,620	8,901	9,731	9,565	9,802	102,160
Natural gasoline	447,460	412,907	450,072	443,625	476,803	471,438	500,175	482,339	448,666	461,829	451,983	443,034	5,490,331
Plant condensate	99,922	107,208	122,074	135,675	112,750	115,480	115,681	117,846	118,599	124,769	123,201	127,646	1,420,851
Fuel and chemical use:													
Ethane	96,721	88,743	100,408	92,393	96,829	92,794	99,033	102,159	95,715	102,570	113,588	116,401	1,197,354
LP gases:													
Propane	769,481	639,600	505,853	379,477	350,360	327,841	339,895	385,998	404,809	510,433	623,920	721,345	5,959,012
Butane	105,052	114,174	106,936	120,573	98,326	107,819	86,929	79,614	130,779	148,729	165,512	198,561	1,463,004
Butane-propane mixture	38,349	43,679	39,576	31,723	32,600	31,990	30,521	31,430	31,944	29,090	27,584	45,530	414,016
Isobutane	------	------	------	------	------	------	------	------	------	------	------	------	------
Finished gasoline and naphthas	33,351	30,702	29,740	34,676	35,351	31,470	32,621	31,385	27,316	28,313	32,454	32,905	380,284
Other finished products	15,332	16,164	15,798	14,416	14,119	13,306	15,348	16,060	14,174	14,575	14,706	19,333	183,331
Total demand for natural gas liquids at plants and terminals	1,925,568	1,685,865	1,601,475	1,457,244	1,405,990	1,379,742	1,426,062	1,468,139	1,512,533	1,711,985	1,870,037	2,038,629	19,483,269

Table 7.—Natural gas liquids utilized at refineries in the United States in 1966 by Bureau of Mines refinery districts and by months

(Thousand gallons)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total
East Coast	33,768	17,010	17,766	15,414	20,496	17,892	15,414	21,798	20,370	21,000	18,102	20,286	239,316
Appalachian	4,998	3,906	2,814	2,142	1,008	1,974	756	1,134	798	1,050	1,260	1,302	23,142
Indiana, Illinois, Kentucky, etc.	93,870	72,828	68,166	66,192	51,408	49,098	61,530	60,354	70,266	74,130	103,992	94,500	866,334
Minnesota, Wisconsin, North Dakota, and South Dakota	10,542	8,316	7,182	5,586	6,258	7,728	7,560	8,232	8,736	8,736	11,508	11,970	102,354
Oklahoma, Kansas, Missouri	71,148	64,638	58,296	54,306	59,976	52,290	55,230	73,290	66,024	71,442	75,978	72,954	775,572
Texas:													
Inland	79,380	73,836	76,104	76,566	80,178	79,254	87,780	90,342	81,522	85,554	84,504	87,192	982,212
Gulf Coast	349,734	311,598	348,516	356,412	352,380	362,670	377,454	360,906	364,938	389,550	375,102	401,562	4,350,822
Total	429,114	385,434	424,620	432,978	432,558	441,924	465,234	451,248	446,460	475,104	459,606	488,754	5,333,034
Louisiana-Arkansas:													
Louisiana Gulf Coast	88,032	76,062	76,524	75,684	80,640	80,724	78,498	75,558	77,952	79,338	78,540	87,108	954,660
Arkansas and Louisiana Inland	24,234	21,462	25,368	25,662	25,578	24,318	25,746	25,410	24,738	26,670	24,696	26,796	300,678
Total	112,266	97,524	101,892	101,346	106,218	105,042	104,244	100,968	102,690	106,008	103,236	113,904	1,255,338
New Mexico	4,074	2,310	2,646	3,402	3,192	4,284	4,536	5,586	3,822	3,696	3,612	4,074	45,234
Other Rocky Mountain	17,598	16,170	16,254	15,330	16,968	17,178	17,052	17,052	15,792	17,766	15,918	16,716	199,794
West Coast	93,030	84,714	91,434	84,252	82,782	79,044	89,712	83,748	82,404	92,274	89,796	101,052	1,054,242
Total United States	870,408	752,850	791,070	780,948	780,864	776,454	821,268	823,410	817,362	871,206	883,008	925,512	9,894,360

Table 8.—Production of natural gas liquids and ethane at natural gas processing plants in the United States in 1966

(Thousand gallons)

States by petroleum districts	Liquefied petroleum gas and ethane					Natural gasoline and isopentane	Plant condensate	Finished gasoline and naphtha	All other products [1]	Total
	Propane (including ethane)	Butane	Butane-propane mixture	Isobutane	Total					
District 1:										
Western Pennsylvania	1,077	786	--------	--------	1,863	3,211	--------	--------	--------	5,074
West Virginia [2]	293,630	53,556	--------	4,272	351,458	43,880	3,173	--------	--------	398,511
Total	294,707	54,342	--------	4,272	353,321	47,091	3,173	--------	--------	403,585
District 2:										
Kentucky [3]	500,233	29,451	--------	27,211	556,895	34,345	293	--------	--------	591,533
Michigan	36,423	17,380	25,418	498	79,719	15,703	--------	--------	--------	95,422
Kansas	430,416	184,776	569	48,403	664,164	168,615	6,217	--------	221	839,217
Nebraska	13,139	6,531	--------	--------	19,670	9,195	--------	--------	--------	28,865
North Dakota	57,136	34,748	--------	--------	91,884	22,651	549	--------	--------	115,084
Oklahoma	638,984	264,571	35,513	47,186	986,254	505,330	67,996	578	2,220	1,562,378
Total	1,676,331	537,457	61,500	123,298	2,398,586	755,839	75,055	578	2,441	3,232,499
District 3:										
Arkansas	39,360	13,467	3,058	8,779	64,664	25,499	4,617	--------	1,934	96,714
Louisiana:										
Gulf	705,879	300,459	17,996	176,500	1,200,834	709,526	289,877	103,603	64,583	2,368,423
Inland	145,089	65,744	31,966	26,083	268,882	96,155	67,380	153,016	77,935	663,368
Total	850,968	366,203	49,962	202,583	1,469,716	805,681	357,257	256,619	142,518	3,031,791
Mississippi [4]	9,762	4,608	4,251	--------	18,621	21,082	2,355	--------	328	42,386
New Mexico	443,640	276,340	30,627	65,595	816,202	327,420	9,164	--------	2,148	1,154,934
Texas:										
Gulf	661,035	194,140	220,593	128,129	1,203,897	637,767	175,254	15,578	5,236	2,037,732
West	1,558,520	667,741	43,314	108,038	2,377,613	851,669	93,105	--------	2,384	3,324,771
East (field)	102,827	49,714	2,094	372	155,007	71,791	5,078	--------	704	232,580
Panhandle	490,254	235,255	13,275	260,400	999,184	456,974	1,256	8,378	280	1,466,072
Other	942,866	395,005	103,633	182,665	1,624,169	787,516	651,430	98,982	26,885	3,188,982
Total	3,755,502	1,541,855	382,909	679,604	6,359,870	2,805,717	926,123	122,938	35,489	10,250,137
Total	5,099,232	2,202,473	470,807	956,561	8,729,073	3,985,399	1,299,516	379,557	182,417	14,575,962
District 4:										
Colorado	51,255	15,144	2,348	4,643	73,390	59,420	--------	--------	--------	132,810
Montana [5]	38,063	18,920	3,697	--------	60,680	26,932	--------	--------	--------	87,612
Wyoming	97,199	68,263	--------	618	166,080	82,172	14,015	--------	185	262,452
Total	186,517	102,327	6,045	5,261	300,150	168,524	14,015	--------	185	482,874
District 5	268,946	45,745	14,270	24,203	353,164	607,286	27,352	--------	--------	987,802
Grand total	[6] 7,525,733	2,942,344	552,622	1,113,595	12,134,294	5,564,139	1,419,111	380,135	185,043	19,682,722

[1] Includes jet fuel, kerosene, distillate, and other.
[2] Florida included with West Virginia.
[3] Illinois included with Kentucky.
[4] Alabama included with Mississippi.
[5] Utah included with Montana.
[6] Includes 1,250,068 thousand gallons of ethane, of which 343,261 thousand gallons were produced in Kentucky and Illinois, 15,633 thousand gallons in Louisiana Gulf, and 692,574 thousand gallons in Texas.

Table 9.—Liquefied petroleum gas and ethane (LR gas) produced at refineries for fuel and chemical uses in 1966

(Thousand gallons)

States by petroleum district	Propane (including ethane)	Butane	Butane-propane mixture	Total
District 1:				
East Coast[1]	563,892	36,036	630	600,558
West New York	24,444	2,100	------	26,544
Pennsylvania	5,376	------	------	5,376
West Virginia	------	------	------	------
Total	593,712	38,136	630	632,478
District 2:				
Illinois	201,348	------	------	201,348
Indiana	59,808	1,470	------	61,278
Kansas	121,422	14,112	5,796	141,330
Kentucky	39,774	2,688	------	42,462
Michigan	53,928	2,856	462	57,246
Minnesota[2]	53,004	------	7,434	60,438
Ohio	167,664	1,638	------	169,302
Oklahoma	115,878	16,842	52,038	184,758
Total	812,826	39,606	65,730	918,162
District 3:				
Arkansas	18,480	882	------	19,362
Louisiana:				
Gulf	381,444	38,094	161,448	580,986
Inland	210	8,526	840	9,576
Total	381,654	46,620	162,288	590,562
Mississippi[3]	57,582	------	840	58,422
New Mexico	4,830	4,536	798	10,164
Texas:				
Gulf	888,678	502,404	141,246	1,532,328
Inland	92,904	45,024	------	137,928
Total	981,582	547,428	141,246	1,670,256
Total	1,444,128	599,466	305,172	2,348,766
District 4:				
Colorado	6,678	4,620	------	11,298
Montana	10,038	1,722	------	11,760
Utah	23,520	210	------	23,730
Wyoming	6,930	14,826	------	21,756
Total	47,166	21,378	------	68,544
District 5:	312,102	107,562	73,542	493,206
Grand total	[4] 3,209,934	[5] 806,148	445,074	4,461,156

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[1] Excludes Pennsylvania.
[2] Missouri, Nebraska, North Dakota, and Wisconsin included with Minnesota.
[3] Alabama included with Mississippi.
[4] Includes 316,806 thousand gallons of ethane.
[5] Includes 26,124,000 gallons of isobutane used for petrochemical feedstocks.

Table 10.—Values and volumes of natural gas liquids and ethane produced in the United States

	Thousand gallons		Thousand dollars		Cents per gallon	
	1965	1966	1965	1966	1965	1966
LP gases and ethane	11,257,267	12,134,294	$417,249	$527,223	3.7	4.3
Natural gasoline and isopentane	5,457,367	5,564,139	360,603	366,332	6.6	6.6
Plate condensate	1,198,477	1,419,111	84,692	107,292	7.1	7.6
Finished gasoline and naphthas	439,267	380,135	36,270	33,380	8.3	8.8
Other products	192,959	185,043	12,789	13,134	6.6	7.1
Total	18,545,337	19,682,722	911,603	1,047,361	4.9	5.3

Table 11.—Average monthly prices, liquefied petroleum gas (propane) in the United States[1]

(Cents per gallon)

	January	February	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year
New York Harbor:													
1965	8.13	8.13	8.13	8.17	7.50	7.50	7.50	7.50	7.63	7.75	7.78	8.01	7.81
1966	8.13	8.13	8.13	8.13	8.13	8.14	8.25	8.25	8.25	8.58	8.75	8.75	8.30
Oklahoma:													
1965	4.00	4.00	3.97	3.69	3.63	3.63	3.70	3.94	4.28	4.50	4.58	4.93	4.07
1966	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08	5.48	5.50	5.52	5.13
Baton Rouge:													
1965	4.60	4.50	4.47	4.19	4.13	4.13	4.17	4.25	4.56	4.88	5.00	5.18	4.50
1966	5.25	5.25	5.25	5.46	5.50	5.50	5.50	5.50	5.57	5.75	5.75	5.77	5.50

[1] Producers' net contract prices (after some discounts and summer-fill allowances) for propane, tank cars/transport trucks.

Source: Platt's Oil Price Handbook.

Table 12.—Stocks of natural gas liquids and ethane in the United States

(Thousand gallons)

Date	LP gases and ethane		Natural gasoline and isopentane		Other finished products and plant condensate		Total at plants and terminals	Total at refineries	Grand total
	At plants and terminals	At refineries	At plants and terminals	At refineries	At plants and terminals	At refineries			
Dec 31:									
1962	1,019,747	37,548	113,179	61,656	61,422	24,612	1,194,348	123,816	1,318,164
1963	1,132,750	33,306	100,188	68,040	67,412	15,666	1,300,350	117,012	1,417,362
1964	1,205,745	37,968	99,191	83,832	56,889	14,868	1,361,825	136,668	1,498,493
1965	1,235,478	24,654	130,886	68,418	39,989	6,972	1,406,353	100,044	1,506,397
1966:									
Jan. 31	933,487	29,316	122,531	59,976	58,907	7,644	1,114,925	96,936	1,211,861
Feb. 28	768,254	27,846	117,597	59,304	56,489	9,744	942,340	96,894	1,039,234
Mar. 31	807,462	30,576	132,285	67,830	61,415	10,584	1,001,162	108,990	1,110,152
Apr. 30	985,871	27,552	141,596	73,500	44,206	11,004	1,171,673	112,056	1,283,729
May 31	1,239,986	24,276	133,419	76,314	45,796	8,988	1,419,201	109,578	1,528,779
June 30	1,454,551	24,150	132,091	72,786	45,419	10,710	1,632,061	107,646	1,739,707
July 31	1,673,816	21,630	118,958	79,800	45,097	6,720	1,837,871	108,150	1,946,021
Aug. 31	1,865,147	22,722	112,125	74,130	43,022	9,366	2,020,294	106,218	2,126,512
Sept. 30	1,951,539	21,924	108,132	62,328	44,026	12,390	2,103,697	96,642	2,200,339
Oct. 31	1,934,580	24,654	105,975	70,224	48,224	8,862	2,088,779	103,740	2,192,519
Nov. 30	1,751,390	21,630	102,948	78,414	44,632	12,894	1,898,970	112,938	2,011,908
Dec. 31	[1] 1,453,625	24,654	112,265	54,600	39,916	12,726	1,605,806	91,980	1,697,786

[1] Includes 1,115 million gallons in underground storage.

Table 13.—Shipments of liquefied petroleum gases and ethane in the United States

(Thousand gallons)

	1962	1963	1964	1965	1966
United States, total	13,038,581	14,307,543	15,405,210	16,042,647	16,810,852
For export	162,735	193,073	225,346	315,464	343,171
For use in gasoline production	2,146,452	2,544,192	2,706,606	2,818,284	2,872,926
For all other uses	10,729,394	11,570,278	12,473,258	12,908,899	13,594,755
By type:					
Ethane	1,222,615	1,378,284	1,347,025	1,475,004	1,544,575
Propane	6,474,558	7,120,976	7,442,817	7,607,834	8,219,462
Butane	1,443,081	1,439,891	1,600,398	1,528,975	1,647,634
Isobutane	41,282	34,264	31,500	38,679	42,032
Butane–propane mixture	1,077,283	1,054,588	1,107,235	1,249,453	1,142,807
All other mixtures	470,575	542,275	944,283	1,008,954	998,245
By principal uses:					
Residential and commercial	4,712,682	5,053,157	5,180,794	5,345,972	5,681,636
Internal–combustion	931,611	999,363	1,176,260	1,193,818	1,213,514
Industrial	424,730	493,208	521,006	526,420	552,911
Refinery fuel	231,084	356,958	439,110	153,258	92,820
Utility gas	173,481	216,627	117,004	121,895	109,310
Chemical	3,571,339	3,771,413	4,315,725	4,802,780	5,096,044
Synthetic rubber	587,379	599,556	651,472	679,884	734,276
Secondary recovery of petroleum	41,676	21,319	9,573	8,391	29,766
Miscellaneous uses	55,412	58,677	62,314	76,481	84,478

Table 14.—Consumption of liquefied petroleum gases and ethane by use, excluding use in gasoline production, by PAD district and State

(Thousand gallons)

PAD district and State	Residential and commercial		Internal combustion engine fuel		Industrial fuel		Utility gas		Miscellaneous uses		Total [1]	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
District 1:												
Connecticut	34,214	34,231	727	1,233	16,326	17,295	1,805	3,956	2,082	1,418	55,154	58,133
Delaware	14,243	16,720	423	438	2,221	1,331	649	9	41	34	17,577	18,532
Florida	202,351	214,856	19,362	23,905	8,267	8,987	7,610	8,157	439	90	238,029	255,995
Georgia	152,803	160,917	10,030	6,704	11,000	10,965	3,805	3,728	10,888	9,664	188,526	191,978
Maine	18,819	19,800	232	295	2,227	3,402	1,150	1,028	------	------	22,428	24,525
Maryland and District of Columbia	44,179	52,007	1,416	2,056	5,580	6,324	7,890	5,502	118	71	59,183	65,960
Massachusetts	45,732	40,032	3,196	1,696	8,517	10,970	4,991	5,478	586	466	63,022	58,642
New Hampshire	22,731	18,099	204	202	2,128	1,412	2,551	3,295	------	------	27,614	23,008
New Jersey	33,192	39,134	5,789	8,656	22,794	27,975	2,470	1,160	12	15	64,257	76,940
New York	111,356	112,875	5,525	7,229	16,100	18,137	340	228	107	120	133,428	138,589
North Carolina	126,644	131,525	2,488	2,821	14,905	16,095	439	485	13,113	17,061	157,589	167,987
Pennsylvania	66,661	76,553	8,654	10,023	29,168	32,064	2,268	2,497	620	940	107,371	122,077
Rhode Island	6,615	6,268	558	720	1,701	1,341	490	172	------	------	9,364	8,501
South Carolina	70,136	49,789	1,805	1,120	11,772	12,120	1,852	2,659	1,389	745	86,954	66,433
Vermont	15,618	14,662	136	163	784	786	2,375	4,724	------	11	18,913	20,346
Virginia	55,997	52,666	3,408	3,341	6,044	7,621	898	1,114	1,922	2,676	68,269	67,418
West Virginia	13,856	11,388	522	207	9,690	7,343	183	------	------	------	24,251	18,938
Total	1,035,147	1,051,522	64,475	70,809	169,224	184,168	41,766	44,192	31,317	33,311	1,872,184	1,911,402
District 2:												
Illinois	295,933	351,803	46,105	52,391	39,219	48,654	6,981	9,652	1,605	2,584	389,843	465,084
Indiana	197,289	228,430	7,580	10,029	56,058	67,932	3,602	1,147	1,449	1,940	265,978	309,478
Iowa	234,280	265,875	7,916	9,534	14,499	22,307	2,743	1,473	2,805	2,284	262,243	301,473
Kansas	197,221	182,606	42,738	50,614	8,205	4,600	------	------	489	584	248,653	238,404
Kentucky	78,780	91,690	5,148	6,595	15,950	11,122	2,750	1,527	229	467	102,857	111,401
Michigan	115,907	148,830	4,883	6,151	22,239	16,007	4,029	4,227	612	1,160	147,670	176,375
Minnesota	199,755	234,218	5,397	9,899	26,778	23,726	9,365	2,204	1,700	2,462	242,995	272,509
Missouri	303,331	384,202	6,822	12,974	6,504	15,009	3,478	15,891	144	58	320,279	428,134
Nebraska	125,772	131,374	14,284	23,827	1,360	3,022	1,699	1,958	96	42	143,211	160,223
North Dakota	37,458	42,927	3,234	5,677	6,370	5,268	947	632	492	494	48,501	54,998
Ohio	113,306	126,811	13,574	18,059	21,393	14,110	17,125	11,795	1,045	1,866	166,443	172,641
Oklahoma	229,348	232,784	70,860	78,459	2,770	4,370	527	3	774	887	304,279	316,503
South Dakota	59,187	61,942	3,543	4,699	1,770	2,116	147	511	140	243	64,787	69,511
Tennessee	56,119	73,942	7,881	12,550	13,232	4,686	3,155	2,777	------	10	80,387	93,965
Wisconsin	182,424	242,475	5,249	5,696	31,452	33,843	954	939	423	358	220,502	283,311
Total	2,426,110	2,799,909	245,214	307,154	267,799	276,772	57,502	54,736	12,003	15,439	3,606,747	3,943,280

District 3:												
Alabama	132,023	154,789	6,241	8,702	3,186	4,033	1,925	1,422	200	120	143,575	169,066
Arkansas	168,998	213,246	62,904	58,690	3,161	3,196	------	------	275	404	235,338	275,536
Louisiana	106,679	102,219	23,027	29,433	18,493	10,696	------	------	336	210	148,535	142,558
Mississippi	141,564	161,464	33,694	38,160	3,154	2,912	98	49	2,104	1,626	180,614	204,211
New Mexico	75,005	64,338	29,472	21,984	635	397	611	799	397	193	106,120	87,711
Texas	644,938	586,610	664,403	626,901	24,425	10,776	869	566	10,294	9,815	1,344,929	1,234,668
Total	1,269,207	1,282,666	819,741	783,870	53,054	32,010	3,503	2,836	13,606	12,368	6,384,472	6,752,375
District 4:												
Colorado	109,916	118,375	11,727	8,170	3,431	4,219	134	95	2,048	2,057	127,256	132,916
Idaho	17,204	18,702	617	456	4,749	5,737	------	------	975	1,010	23,545	25,905
Montana	31,436	37,441	1,926	2,722	5,536	8,791	------	------	20	20	38,918	48,974
Utah	24,976	22,219	1,804	1,085	1,184	1,633	------	------	499	27	28,463	24,964
Wyoming	26,292	30,474	7,065	6,550	10,601	12,797	------	------	118	194	44,076	50,015
Total	209,824	227,211	23,139	18,983	25,501	33,177	134	95	3,660	3,308	270,261	293,648
District 5:												
Alaska	3,805	3,783	21	34	------	------	------	315	------	------	3,826	4,132
Arizona	35,903	24,431	5,750	5,948	2,641	715	------	------	72	68	44,366	31,162
California	251,766	193,901	30,192	22,677	3,566	19,253	12,339	4,256	15,174	18,999	313,037	259,086
Hawaii	5,602	6,345	508	690	178	469	2,900	2,636	------	------	9,188	10,140
Nevada	25,637	19,825	1,273	443	------	360	3,346	25	12	8	30,268	20,661
Oregon	38,811	32,973	511	720	789	1,732	187	------	98	7	40,396	35,432
Washington	44,160	39,070	2,994	2,186	3,668	4,255	218	219	539	970	51,579	46,700
Total	405,684	320,328	41,249	32,698	10,842	26,784	18,990	7,451	15,895	20,052	775,235	694,050
Grand total	5,345,972	5,681,636	1,193,818	1,213,514	526,420	552,911	121,895	109,310	76,481	84,478	12,908,899	13,594,755

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[1] District totals do not equal the sum of State totals because of the inclusion in district totals and the exclusion in State totals of figures for refinery fuel, chemical, synthetic rubber, and secondary recovery uses to avoid disclosing company data. Data for these uses are shown in Table 16.

Table 15.—Consumption of liquefied petroleum gases and ethane, by type, by PAD district and State

(Thousand gallons)

PAD district and State	Propane		Butane		Butane–propane mixture		Total	
	1965	1966	1965	1966	1965	1966	1965	1966
District 1:								
Connecticut	55,086	58,054	68	72	------	7	55,154	58,133
Delaware	17,540	18,506	------	------	37	26	17,577	18,532
Florida	215,689	237,197	1,610	1,683	20,730	17,115	238,029	255,995
Georgia	175,600	179,520	1,071	1,036	11,855	11,422	188,526	191,978
Maine	22,428	24,525	------	------	------	------	22,428	24,525
Maryland and District of Columbia	58,837	65,721	------	------	346	239	59,183	65,960
Massachusetts	62,966	58,642	------	------	56	------	63,022	58,642
New Hampshire	26,809	22,608	805	400	------	------	27,614	23,008
New Jersey	62,455	73,902	1,454	2,774	348	264	64,257	76,940
New York	133,428	138,314	------	------	------	275	133,428	138,589
North Carolina	156,089	164,525	133	63	1,367	3,399	157,589	167,987
Pennsylvania	105,417	120,496	------	26	1,954	1,555	107,371	122,077
Rhode Island	9,364	8,501	------	------	------	------	9,364	8,501
South Carolina	84,141	64,637	------	4	2,813	1,792	86,954	66,433
Vermont	18,913	20,346	------	------	------	------	18,913	20,346
Virginia	68,202	67,418	67	------	------	------	68,269	67,418
West Virginia	15,113	11,933	9,129	7,000	9	5	24,251	18,938
Total[1]	1,350,184	1,412,946	98,458	108,435	42,257	38,143	[2]1,872,184	[2]1,911,402
District 2:								
Illinois	386,839	461,232	2,528	3,505	476	347	389,843	465,084
Indiana	264,073	307,488	1,699	1,990	206	------	265,978	309,478
Iowa	262,025	301,251	216	222	2	------	262,243	301,473
Kansas	228,670	223,562	8,959	6,592	11,024	8,250	248,653	238,404
Kentucky	101,961	110,420	79	13	817	968	102,857	111,401
Michigan	145,818	175,185	10	44	1,842	1,146	147,670	176,375
Minnesota	237,399	268,827	5,413	3,635	183	47	242,995	272,509
Missouri	312,193	414,600	1,613	1,282	6,473	12,252	320,279	428,134
Nebraska	142,673	159,414	214	479	324	330	143,211	160,223
North Dakota	44,875	51,911	1,142	1,349	2,484	1,738	48,501	54,998
Ohio	166,386	172,349	35	------	22	292	166,443	172,641
Oklahoma	249,223	283,092	7,150	6,156	47,906	27,255	304,279	316,503
South Dakota	62,292	65,144	18	------	2,477	4,367	64,787	69,511
Tennessee	76,813	89,917	284	127	3,290	3,921	80,387	93,965
Wisconsin	213,232	275,854	7,248	7,457	22	------	220,502	283,311
Total[1]	3,034,883	3,473,232	125,809	85,402	85,690	65,964	[2]3,606,747	[2]3,943,280

District 3:								
Alabama	108,800	132,567	1,421	1,450	33,354	35,049	143,575	169,066
Arkansas	181,306	222,391	8,334	8,677	45,698	44,468	235,338	275,536
Louisiana	88,816	88,337	3,366	2,723	56,353	51,498	148,535	142,558
Mississippi	115,234	135,380	4,008	4,068	61,372	64,763	180,614	204,211
New Mexico	95,261	77,078	1,775	694	9,084	9,939	106,120	87,711
Texas	642,914	636,811	36,662	40,829	665,353	557,028	1,344,929	1,234,668
Total [1]	2,429,501	2,570,640	1,211,139	1,381,087	1,043,425	1,004,138	[2] 6,384,472	[2] 6,752,375
District 4:								
Colorado	123,765	128,958	335	229	3,156	3,729	127,256	132,916
Idaho	22,798	25,274	651	531	96	100	23,545	25,905
Montana	34,828	45,455	311	379	3,779	3,140	38,918	48,974
Utah	27,819	24,859	61	51	583	54	28,463	24,964
Wyoming	37,680	42,603	360	350	6,036	7,062	44,076	50,015
Total [1]	250,341	270,737	4,269	5,539	15,651	17,372	270,261	293,648
District 5:								
Alaska	3,826	4,132	------	------	------	------	3,826	4,132
Arizona	43,151	30,925	------	------	1,215	237	44,366	31,162
California	263,546	243,848	------	966	49,491	14,272	313,037	259,086
Hawaii	9,188	10,140	------	------	------	------	9,188	10,140
Nevada	30,197	20,660	------	------	71	1	30,268	20,661
Oregon	38,097	35,039	------	------	2,299	393	40,396	35,432
Washington	50,438	46,068	------	------	1,141	632	51,579	46,700
Total [1]	542,925	491,907	89,300	67,171	62,430	17,190	[2] 775,235	[2] 694,050
Grand total	7,607,834	8,219,462	1,528,975	1,647,634	1,249,453	1,142,807	12,908,899	13,594,755

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[1] District totals do not equal the sum of State totals due to the inclusion in District totals and the exclusion in State totals of figures for refinery fuel, chemical, synthetic rubber and secondary recovery uses to avoid disclosing company data. Data for these uses are shown in table 16.

[2] Includes ethane, isobutane, and all other mixtures. See table 16.

Table 16.—Consumption of liquefied petroleum gases and ethane for chemical, synthetic rubber, refinery fuel, and secondary recovery of petroleum uses, by type, by PAD district

(Thousand gallons)

Use and PAD district	Ethane		Propane		Butane		Isobutane		Butane–propane mixture		All other mixtures		Total	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Chemical:														
District 1	341,488	306,509	57,050	73,023	79,113	91,009	798	1,283	81	108	38,999	44,086	517,529	516,018
District 2	312,422	293,873	97,245	94,475	66,009	42,787	2,558	3,142	1,084	1,280	45,385	21,667	524,703	457,224
District 3	802,548	919,050	1,190,932	1,271,251	559,891	676,675	35,323	37,607	170,850	240,244	810,048	784,691	3,569,592	3,929,518
District 4	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 5	18,546	25,143	54,474	63,409	48,846	12,093	----	----	7,056	------	62,034	92,639	190,956	193,284
Total	1,475,004	1,544,575	1,399,701	1,502,158	753,859	822,564	38,679	42,032	179,071	241,632	956,466	943,083	4,802,780	5,096,044
Synthetic rubber:														
District 1	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 2	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 3	------	------	------	------	593,123	643,159	----	----	------	------	52,488	55,162	645,611	698,321
District 4	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 5	------	------	------	------	34,273	35,955	----	----	------	------	------	------	34,273	35,955
Total	------	------	------	------	627,396	679,114	----	----	------	------	52,488	55,162	679,884	734,276
Refinery Fuel:														
District 1	------	------	5,057	5,078	5,008	4,368	----	----	2,661	1,936	------	------	12,726	11,382
District 2	------	------	43,166	18,511	23,192	9,764	----	----	7,058	3,771	------	------	73,416	32,046
District 3	------	------	5,782	6,329	2,559	2,812	----	----	1,361	1,149	------	------	9,702	10,290
District 4	------	------	2,096	3,050	2,455	3,869	----	----	2,001	3,287	------	------	6,552	10,206
District 5	------	------	44,681	10,431	6,181	18,157	----	----	------	308	------	------	50,862	28,896
Total	------	------	100,782	43,399	39,395	38,970	----	----	13,081	10,451	------	------	153,258	92,820
Secondary recovery of petroleum:														
District 1	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 2	------	------	------	------	------	------	----	----	------	------	------	------	------	------
District 3	------	------	456	496	------	------	----	----	------	------	------	------	456	496
District 4	------	------	1,355	538	96	130	----	----	------	------	------	------	1,451	668
District 5	------	------	5,327	27,255	------	------	----	----	1,157	1,347	------	------	6,484	28,602
Total	------	------	7,138	28,289	96	130	----	----	1,157	1,347	------	------	8,391	29,766
Total:														
District 1	341,488	306,509	62,107	78,101	84,121	95,377	798	1,283	2,742	2,044	38,999	44,086	530,255	527,400
District 2	312,422	293,873	140,411	112,986	89,201	52,551	2,558	3,142	8,142	5,051	45,385	21,667	598,119	489,270
District 3	802,548	919,050	1,197,170	1,278,076	1,155,573	1,322,646	35,323	37,607	172,211	241,393	862,536	839,853	4,225,361	4,638,625
District 4	------	------	3,451	3,588	2,551	3,999	----	----	2,001	3,287	------	------	8,003	10,874
District 5	18,546	25,143	104,482	101,095	89,300	66,205	----	----	8,213	1,655	62,034	92,639	282,575	286,737
Grand total	1,475,004	1,544,575	1,507,621	1,573,846	1,420,746	1,540,778	38,679	42,032	193,309	253,430	1,008,954	998,245	5,644,313	5,952,906

Table 17.—LP gases[1] exported from the United States, by countries

(Thousand gallons)[2]

Country	1957–61 (average)	1962	1963	1964	1965	1966
North America:						
Canada	16,985	3,657	6,347	4,900	2,496	7,355
Mexico	100,974	148,931	177,748	211,141	260,129	307,103
Bermuda and Caribbean	3,323	2,031	2,494	2,219	1,452	1,765
Central America	1,019	628	438	88	620	1,235
Other	4,184	------	------	------	53	------
Total	126,485	155,247	187,027	218,348	264,750	317,458
South America:						
Argentina	3,702	3,518	9	1,060	15,247	------
Brazil	4,119	18	169	425	2	15
Other	111	223	89	51	13	23
Total	7,932	3,759	267	1,536	15,262	38
Europe:						
Denmark	132	22	336	13	6	10
France	38	113	2,113	427	214	9
Germany, West	133	1,353	1,416	2,461	262	73
Italy	256	489	436	40	307	32
Netherlands	29	132	187	84	116	53
United Kingdom	331	354	174	429	33,682	24,357
Other	45	116	88	163	12	496
Total	964	2,579	4,750	3,617	34,599	25,030
Africa	72	325	109	172	83	127
Asia:						
Israel	19	15	27	71	59	12
Japan	213	374	172	245	530	316
Thailand	------	------	------	300	------	------
Other	16	8	56	42	30	7
Total	248	397	255	658	619	335
Oceania	217	428	665	1,015	151	183
Grand total	135,918	162,735	193,073	225,346	315,464	343,171

[1] Data include LR gases.
[2] 4.5 pounds = 1 gallon.
[3] Less than ½ unit.

Peat

Table 1.—Salient peat statistics

	1957–59 (average)	1963	1964	1965	1966
United States:					
Number of operations	87	113	142	146	144
Production short tons	354,497	578,530	649,033	604,082	611,085
Commercial sales do	342,711	546,621	639,690	603,746	605,858
Value of sales thousands	$3,556	$5,423	$6,199	$6,080	$6,501
Average per ton	$10.38	$9.92	$9.69	$10.07	$10.73
Imports short tons	267,525	261,331	270,419	275,462	293,412
Available for consumption [1] short tons	610,236	807,952	910,109	879,208	899,270
World production thousand short tons	[2] 71,100	173,000	184,600	189,400	188,800

[1] Commercial sales plus imports.

[2] In addition, the U.S.S.R. produced an undetermined quantity of agricultural peat.

Table 2.—Peat produced in the United States in 1966, by kinds

(Short tons)

Kind	Unprepared	Processed		Total
		Shredded	Shredded and Kiln-dried	
Moss	13,221	106,311	18,660	138,192
Reed-sedge	19,785	290,164	4,063	314,012
Humus	58,722	97,926	2,233	158,881
Total	91,728	494,401	24,956	611,085

Table 3.—Production and commercial sales of peat in the United States in 1966, by State

State	Active plants	Production (short tons)	Commercial sales		
			Short tons	Value	
				Total	Average
Alaska, Connecticut, Iowa, Massachusetts	6	24,636	24,636	$328,736	$13.34
California	4	29,235	29,235	383,765	13.13
Colorado	15	37,111	37,111	277,520	7.48
Florida	5	11,900	11,500	91,350	7.94
Georgia, Maryland, South Carolina	5	11,611	11,156	132,770	11.90
Idaho, Montana, Nevada, North Dakota	4	9,892	9,892	124,870	12.62
Illinois	6	44,374	44,374	565,124	12.74
Indiana	6	38,975	38,111	456,444	11.98
Maine	3	2,050	1,600	60,000	37.50
Michigan	28	233,391	235,842	2,174,566	9.22
Minnesota	7	18,366	11,366	197,183	17.35
New Hampshire	1	175	175	1,925	11.00
New Jersey	4	36,312	36,312	488,920	13.46
New York	5	27,211	27,211	249,599	9.17
Ohio	11	6,739	5,214	84,410	16.19
Oregon	1	900	900	17,000	18.89
Pennsylvania	13	49,912	52,912	561,521	10.61
Vermont	2	333	333	5,377	16.15
Washington	15	25,599	25,599	136,375	5.33
Wisconsin	3	2,363	2,379	163,826	68.86
Total	144	611,085	605,858	6,501,281	10.73

Table 4.—Relative size of peat operations in the United States

Size	1965				1966			
	Active plants		Production		Active plants		Production	
	Number	Percent of total	Short tons	Percent of total	Number	Percent of total	Short tons	Percent of total
Under 500 tons	33	22.6	7,055	1.2	37	25.7	8,135	1.3
500–999 tons	22	15.1	17,212	2.8	15	10.4	12,110	2.0
1,000–4,999 tons	^{r}61	^{r}41.8	^{r}140,688	^{r}23.3	63	43.8	149,349	24.4
5,000–14,999 tons	^{r}21	^{r}14.4	^{r}179,610	^{r}29.7	18	12.5	159,975	26.2
15,000–24,999 tons	5	3.4	98,251	16.3	6	4.1	99,895	16.4
Over 25,000 tons	4	2.7	161,266	26.7	5	3.5	181,621	29.7
Total	146	100.0	604,082	100.0	144	100.0	611,085	100.0

^{r} Revised.

Table 5.—Commercial sales of peat in the United States in 1966, by kinds and uses

Use	Moss		Reed-sedge		Humus	
	Short tons	Value	Short tons	Value	Short tons	Value
Bulk:						
Soil improvement	61,703	$546,412	94,655	$870,568	122,683	$814,992
Other uses	2,035	14,625	4,593	52,209	12,965	101,846
Total	63,738	561,037	99,248	922,777	135,648	916,838
Packaged:						
Soil improvement	72,433	1,243,193	201,913	1,897,343	20,035	275,830
Other uses	41	1,260	9,342	486,181	3,460	196,822
Total	72,474	1,244,453	211,255	2,383,524	23,495	472,652
Total:						
Soil improvement	134,136	1,789,605	296,568	2,767,911	142,718	1,090,822
Other uses	2,076	15,885	13,935	538,390	16,425	298,668
Grand total	136,212	1,805,490	310,503	3,306,301	159,143	1,389,490

Table 6.—Commercial sales of peat in the United States in 1966, by uses

Use	In bulk		In packages		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
Soil improvement	279,041	$2,231,972	294,381	$3,416,366	573,422	$5,648,338
Potting soils	3,617	18,913	8,647	458,956	12,264	477,869
Packing flowers, shrubs, etc.[1]	4,417	48,998	1,936	32,485	6,353	81,483
Seed inoculant	---	---	2,260	192,822	2,260	192,822
Mushroom beds	3,787	40,443	---	---	3,787	40,443
In mixed fertilizers	7,772	60,326	---	---	7,772	60,326
Total	298,634	2,400,652	307,224	4,100,629	605,858	6,501,281

[1] Includes small amount sold for earthworm culture.

Table 7.—Peat moss imported for consumption in the United States, by kinds and by countries

(Short tons and thousand dollars)

Country	Poultry and stable grade		Fertilizer grade		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1965:						
North America:						
Canada	3,101	$176	229,639	$10,289	232,740	$10,465
Mexico	37	8	44	2	81	10
Total	3,138	184	229,683	10,291	232,821	10,475
South America:						
Argentina	13	2	56	5	69	7
Brazil	---	---	54	5	54	5
Peru	---	---	110	11	110	11
Total	13	2	220	21	233	23
Europe:						
Finland	---	---	100	3	100	3
France	---	---	45	1	45	1
Germany:						
East	---	---	44	2	44	2
West	679	26	28,331	980	29,010	1,006
Ireland	140	5	3,323	102	3,463	107
Netherlands	---	---	1,072	57	1,072	57
Poland and Danzig	---	---	7,121	227	7,121	227
Sweden	---	---	1,228	55	1,228	55
United Kingdom	20	(1)	299	9	319	9
Total	839	31	41,563	1,436	42,402	1,467
Oceania: New Zealand	6	3	---	---	6	3
Grand total	3,996	220	271,466	11,748	275,462	11,968
1966:						
North America:						
Canada	3,468	174	262,720	10,378	266,188	10,552
Mexico	18	4	---	---	18	4
Total	3,486	178	262,720	10,378	266,206	10,556
Europe:						
Belgium-Luxembourg	---	---	22	1	22	1
Denmark	---	---	812	32	812	32
Germany, West	208	10	17,171	661	17,379	671
Ireland	304	11	2,325	95	2,629	106
Netherlands	22	(1)	44	2	66	2
Norway	---	---	15	7	15	7
Poland and Danzig	---	---	5,858	200	5,858	200
Sweden	---	---	681	31	681	31
United Kingdom	---	---	93	4	93	4
Total	534	21	27,021	1,033	27,555	1,054
Oceania: New Zealand	---	---	82	5	82	5
Grand total	4,020	199	289,823	11,416	293,843	11,615

[1] Less than ½ unit.

Table 8.—Peat moss imported for consumption in the United States in 1966, by kinds and by customs districts

(Short tons and thousand dollars)

Customs district	Poultry and stable grade		Fertilizer grade		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
Baltimore, Md	20	$1	2,816	$109	2,836	$110
Boston, Mass	---	---	855	28	855	28
Buffalo, N.Y	176	10	27,341	959	27,517	969
Charleston, S.C	---	---	578	23	578	23
Chicago, Ill	---	---	18	(1)	18	(1)
Cleveland, Ohio	---	---	159	5	159	5
Detroit, Mich	798	29	41,936	1,567	42,734	1,596
Duluth, Minn	---	---	499	23	499	23
Great Falls, Mont	---	---	6,451	290	6,451	290
Honolulu, Hawaii	---	---	32	2	32	2
Houston, Texas	---	---	1,046	39	1,046	39
Laredo, Texas	18	4	---	---	18	4
Los Angeles, Calif	182	6	1,457	57	1,639	63
Miami, Fla	---	---	380	16	380	16
Mobile, Ala	8	(1)	2,833	107	2,841	107
New Orleans, La	26	1	3,082	100	3,108	101
New York, N.Y	133	6	4,141	185	4,274	191
Norfolk, Va	74	3	2,034	67	2,108	70
Ogdensburg, N. Y	87	3	60,138	1,946	60,225	1,949
Pembina, S. Dak	1,667	101	17,390	659	19,057	760
Philadelphia, Pa	26	1	2,446	89	2,472	90
Portland, Maine	---	---	2,926	110	2,926	110
Portland, Ore	---	---	25	1	25	1
Providence, R. I	---	---	33	1	33	1
St. Albans, Vt	552	19	57,715	1,919	58,267	1,938
San Francisco, Calif	68	3	393	14	461	17
San Juan, Puerto Rico	15	1	52	3	67	4
Savannah, Ga	---	---	655	20	655	20
Seattle, Wash	170	11	48,312	2,908	48,482	2,919
Tampa, Fla	---	---	3,947	164	3,947	164
Wilmington, N.C	---	---	133	5	133	5
Total	4,020	199	289,823	11,416	293,843	11,615

[1] Less than ½ unit.

Table 9.—World production of peat by countries

(Thousand short tons)

Country	1962	1963	1964	1965	1966 [p] [1]
Argentina, fuel	2	12	4	[r] 4	[e] 4
Austria, fuel [e]	6	6	6	6	2
Canada, agricultural use [2]	238	244	255	[r] 288	270
Denmark, fuel	67	55	40	[r] 17	10
Finland:					
Agricultural use	4	3	4	4	[e] 6
Fuel	68	88	79	72	[e] 72
France:					
Agricultural use	31	35	[r] 52	[r] 49	[e] 50
Fuel [e]	3	3	3	3	3
Germany:					
East [e]	550	550	550	550	550
West:					
Agricultural use	911	884	1,085	[r] 1,156	[e] 1,210
Fuel	776	837	773	[r] 484	480
Hungary, agricultural use [e]	65	65	70	70	70
Ireland:					
Agricultural use	24	28	[r] 26	[r] 31	[e] 32
Fuel	4,539	3,918	[r] 4,208	[e] 4,157	[e] 4,639
Israel, agricultural use [e]	11	13	15	17	22
Japan [e]	80	80	75	75	75
Korea, South, agricultural use	137	128	127	[e] 127	[e] 110
Netherlands [e]	500	440	440	440	440
Norway:					
Agricultural use	40	40	46	50	[e] 55
Fuel	161	115	115	[e] 116	[e] 110
Poland, fuel	73	112	110	[r] 86	[e] 83
Sweden:					
Agricultural use	61	[r] 61	[r] 71	[e] 77	[e] 77
Fuel	169	234	[r] 158	[e] 243	[e] 220
U.S.S.R.:					
Agricultural use [e]	100,000	100,000	110,000	130,000	130,000
Fuel	38,300	64,500	65,600	[r] 50,700	[e] 49,600
United States, agricultural use	572	579	649	604	611
World total [e] [3]	147,400	173,000	[r] 184,600	[r] 189,400	188,800
Fuel peat (included in world total) [e] [3]	44,800	70,400	[r] 71,700	[r] 56,500	55,800

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Compiled from data available May 1967.

[2] In addition, Canada produced a negligible quantity of fuel peat.

[3] In addition, Iceland, Italy, and Spain produced a negligible quantity of fuel peat.

Table 10.—Peat moss imported from Canada and West Germany for consumption in the United States in 1966, by kind and by customs district

Customs district	Canada				West Germany			
	Poultry and stable grade		Fertilizer grade		Poultry and stable grade		Fertilizer grade	
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)
Baltimore	---	---	---	---	20	$1	1,589	$58
Boston	---	---	10	$(1)	---	---	161	7
Buffalo	176	$10	27,341	959	---	---	---	---
Charleston, S.C	---	---	---	---	---	---	458	18
Chicago	---	---	---	---	---	---	18	(1)
Cleveland	---	---	---	---	---	---	131	4
Detroit	798	29	41,936	1,567	---	---	---	---
Duluth	---	---	499	23	---	---	---	---
Great Falls, Mont	---	---	6,451	290	---	---	---	---
Honolulu	---	---	32	2	---	---	---	---
Houston	---	---	---	---	---	---	679	27
Los Angeles	18	1	20	(1)	---	---	1,170	46
Miami	---	---	---	---	---	---	309	13
Mobile	---	---	---	---	8	(1)	2,662	99
New Orleans	---	---	---	---	26	1	1,813	59
New York City	---	---	37	1	39	3	1,469	70
Norfolk	---	---	---	---	74	3	539	18
Ogdensburg, N.Y	87	3	60,138	1,946	---	---	---	---
Pembia, N. Dak	1,667	101	17,390	659	---	---	---	---
Philadelphia	---	---	---	---	26	1	1,637	62
Portland, Maine	---	---	2,926	110	---	---	---	---
Portland, Oreg	---	---	25	1	---	---	---	---
Providence	---	---	33	1	---	---	---	---
St. Albans, Vt	552	19	57,715	1,919	---	---	---	---
San Francisco	---	---	---	---	---	---	342	12
San Juan, Puerto Rico	---	---	---	---	15	1	15	1
Savannah	---	---	---	---	---	---	547	17
Seattle	170	11	48,167	2,900	---	---	26	1
Tampa	---	---	---	---	---	---	3,495	145
Wilmington, N.C	---	---	---	---	---	---	111	4
Total	3,468	174	262,720	10,378	208	10	17,171	661

[1] Less than ½ unit.

Petroleum

Table 1.—Salient statistics of crude petroleum, refined products, and natural gas liquids in the United States

	1962	1963	1964	1965	1966 [p]
Crude petroleum:					
Domestic production thousand barrels [1]	2,676,189	2,752,723	2,786,822	2,848,514	3,027,763
World production do	8,882,213	9,537,517	10,308,629	11,058,427	12,007,134
United States proportion percent	30	29	27	26	25
Imports [2] thousand barrels [1]	411,039	412,660	438,643	452,040	447,120
Exports [3] do	1,790	1,698	1,363	1,097	1,477
Stocks, end of year do	252,011	237,361	230,057	220,289	238,391
Runs to stills do	3,069,631	3,170,652	3,223,329	3,300,842	3,447,193
Value of domestic product at wells:					
Total thousands	$7,774,051	$7,965,742	$8,017,078	$8,158,298	$8,726,423
Average per barrel	$2.90	$2.89	$2.88	$2.86	$2.88
Total producing oil wells December 31	596,385	588,657	588,225	589,203	583,302
Total oil wells completed during year (successful wells)	21,372	20,288	20,620	18,761	16,780
Refined products:					
Imports [4] thousand barrels [1]	348,754	362,053	388,093	[r] 448,732	492,042
Exports [3] do	59,600	74,216	72,516	[r] 67,191	70,919
Stocks, end of year do	553,848	564,451	573,499	580,188	595,651
Completed refineries, end of year	308	304	300	286	281
Daily crude-oil capacity thousand barrels [1]	10,118	10,385	10,775	10,493	10,760
Natural gas liquids:					
Production do	372,705	400,886	422,471	441,556	468,635
Stocks, end of year do	31,385	33,747	35,679	35,867	40,423
All oils:					
Total demand thousand barrels [1]	3,796,983	3,927,139	4,032,382	[r] 4,193,746	4,397,469
Exports do	61,390	75,914	73,879	[r] 68,288	72,396
Domestic demand do	3,735,593	3,851,225	3,958,503	[r] 4,125,458	4,325,073

[p] Preliminary (except for crude production and value). [r] Revised.

[1] 42 gallons per barrel.

[2] Bureau of Mines data for crude oil and unfinished oils.

[3] U.S. Department of Commerce data.

[4] U.S. Department of Commerce data, except for unfinished oils.

Table 2.—Supply and demand of all oils in the United States, by months

(Thousand barrels)

	1965												
	January	February	March	April	May	June	July	August	September	October	November	December	Total
New supply:													
Domestic production:													
Crude petroleum	240,946	218,612	243,763	236,844	238,253	232,440	237,606	240,180	222,529	244,122	239,635	253,584	2,848,514
Natural gas liquids	36,960	34,319	38,409	36,676	36,764	35,230	36,614	36,496	35,048	37,913	37,976	39,151	441,556
Benzol, etc.	2	2	1	3	1	1	-----	-----	-----	-----	2	1	13
Total production	277,908	252,933	282,173	273,523	275,018	267,671	274,220	276,676	257,577	282,035	277,613	292,736	3,290,083
Imports:[1]													
Crude petroleum	37,344	32,685	41,398	38,110	38,961	39,912	40,691	40,770	43,152	39,111	32,024	27,882	452,040
Refined products	47,246	41,538	42,788	41,573	32,782	33,237	30,575	29,944	28,389	36,322	35,376	48,962	448,732
Total new supply	362,498	327,156	366,359	353,206	346,761	340,820	345,486	347,390	329,118	357,468	345,013	369,580	4,190,855
Increase (+) or decrease (−) in stocks	−15,247	−22,068	−11,292	+12,224	+23,880	+13,343	+13,157	+10,863	+4,338	+12,094	−7,572	−36,611	−2,891
Demand:													
Total demand	377,745	349,224	377,651	340,982	322,881	327,477	332,329	336,527	324,780	345,374	352,585	406,191	4,193,746
Exports:[2]													
Crude petroleum	89	45	3	187	-----	68	421	-----	-----	182	94	8	1,097
Refined products	5,120	4,593	6,532	6,250	5,704	6,025	5,702	5,896	5,279	5,098	5,496	5,496	67,191
Domestic demand:													
Gasoline:													
Motor gasoline	121,388	116,303	137,009	137,562	145,145	151,606	152,783	150,799	138,955	143,134	136,208	145,412	1,676,304
Aviation gasoline	3,561	3,363	3,281	3,309	4,413	3,654	3,981	3,473	3,461	4,022	3,872	3,507	43,897
Total	124,949	119,666	140,290	140,871	149,558	155,260	156,764	154,272	142,416	147,156	140,080	148,919	1,720,201
Special naphthas	2,361	2,566	2,800	2,518	2,405	2,947	1,625	2,930	2,685	2,276	2,207	2,507	29,827
Kerosine	12,954	11,956	11,049	6,284	4,301	4,572	4,872	5,904	5,974	7,675	9,386	12,654	97,581
Distillate fuel oil	92,814	86,896	83,865	61,011	45,820	41,853	44,310	47,939	49,802	56,921	71,679	92,904	775,814
Residual fuel oil	65,290	58,030	59,381	54,868	39,914	38,834	37,833	36,773	37,504	45,830	46,833	65,921	587,011
Jet fuel:													
Naphtha-type jet fuel	8,764	6,901	7,344	8,219	9,026	8,163	7,709	9,217	8,449	7,721	8,503	7,797	97,813
Kerosine-type jet fuel	9,803	7,980	9,794	9,360	10,392	9,898	10,832	10,706	11,133	10,357	10,028	11,536	121,819
Total	18,567	14,881	17,138	17,579	19,418	18,061	18,541	19,923	19,582	18,078	18,531	19,333	219,632
Lubricants	3,884	3,229	4,285	3,826	4,176	4,252	4,136	4,047	3,973	3,823	3,780	3,709	47,120
Wax	311	305	342	288	305	337	280	305	350	331	365	312	3,831
Coke	6,609	6,327	6,443	5,428	5,928	5,552	6,290	6,230	6,606	5,760	6,042	6,412	73,627
Asphalt	3,489	3,524	4,797	7,756	12,279	15,730	17,184	17,810	15,503	14,686	9,426	5,413	127,597
Road oil	56	25	141	183	545	1,110	1,440	1,409	810	539	231	71	6,560
Still gas	11,322	10,441	11,175	10,635	11,405	11,600	12,442	12,336	11,208	10,955	10,644	11,132	135,295

Liquefied gases (including ethane):													
L.R.G.[3] for fuel use	5,133	4,916	5,140	4,094	4,066	4,505	4,810	4,877	4,358	4,367	4,410	5,707	56,383
L.R.G. for chemical use	3,914	3,819	4,721	4,457	4,487	4,201	4,302	4,117	4,236	4,200	3,892	4,134	50,480
L.P.G.[4] for fuel and chemical use	20,688	19,373	20,030	14,448	12,809	12,606	12,245	13,034	14,647	17,577	19,550	23,243	200,250
Total	29,735	28,108	29,891	22,999	21,362	21,312	21,357	22,028	23,241	26,144	27,852	33,084	307,113
Petrochemical feedstocks: [5]													
Still gas	909	633	786	759	846	751	741	676	656	732	672	765	8,926
Naphtha-400°	1,877	1,602	2,445	1,726	1,458	1,925	1,857	1,993	2,227	1,959	2,195	2,257	23,521
Other	2,118	1,678	1,462	1,840	1,823	1,920	1,772	1,874	2,014	2,252	1,869	1,806	22,428
Total	4,904	3,913	4,693	4,325	4,127	4,596	4,370	4,543	4,897	4,943	4,736	4,828	54,875
Miscellaneous	1,413	1,264	1,443	1,137	1,374	1,392	1,374	1,440	1,281	1,282	1,247	1,308	15,955
Domestic product demand	378,658	351,131	377,733	339,708	322,917	327,408	332,818	337,889	325,832	346,399	353,039	408,507	4,202,039
Crude losses	307	280	305	292	303	303	319	316	300	312	306	317	3,660
Less net processing gain	6,429	6,825	6,922	5,455	6,043	6,327	6,931	7,574	6,631	6,617	6,350	8,137	80,241
Total domestic demand	372,536	344,586	371,116	334,545	317,177	321,384	326,206	330,631	319,501	340,094	346,995	400,687	4,125,458
Stocks:													
Crude petroleum	230,165	230,268	239,563	251,375	255,071	253,586	242,101	236,381	231,100	231,816	226,697	220,289	220,289
Natural gas liquids	30,999	27,657	26,272	29,670	34,994	38,661	43,550	46,727	46,941	45,863	42,548	35,867	35,867
Refined products	562,824	543,995	524,793	521,807	536,667	547,828	567,581	580,987	590,392	602,848	603,710	580,188	580,188
Total	823,988	801,920	790,628	802,852	826,732	840,075	853,232	864,095	868,433	880,527	872,955	836,344	836,344
New supply:													
Domestic production:													
Crude petroleum	249,459	230,733	257,107	248,155	258,677	250,391	255,121	255,812	247,632	258,008	252,825	263,843	3,027,763
Natural gas liquids	38,908	36,030	39,531	38,756	39,369	37,919	38,855	39,299	37,998	40,406	40,005	41,559	468,635
Benzol, etc.	1	1	-----	-----	1	2	4	-----	5	5	5	6	30
Total production	288,368	266,764	296,638	286,911	298,047	288,312	293,980	295,111	285,635	298,419	292,835	305,408	3,496,428
Imports: [1]													
Crude petroleum	41,956	34,658	38,765	36,508	37,330	38,959	39,062	41,458	36,004	36,019	34,413	31,988	447,120
Refined products	46,893	44,460	53,058	37,562	37,234	37,366	37,619	39,660	35,351	37,747	39,204	45,888	492,042
Total new supply	377,217	345,882	388,461	360,981	372,611	364,637	370,661	376,229	356,990	372,185	366,452	383,284	4,435,590
Increase (+) or decrease (−) in stocks	−17,642	−24,094	+8,398	+9,926	+29,049	+8,352	+29,068	+13,390	+12,562	+11,594	−10,749	−31,733	+38,121
Demand:													
Total demand	394,859	369,976	380,063	351,055	343,562	356,285	341,593	362,839	344,428	360,591	377,201	415,017	4,397,469
Exports: [2]													
Crude petroleum	135	-----	108	290	1	130	240	186	83	95	88	121	1,477
Refined products	5,062	5,605	6,201	5,848	5,478	6,064	6,093	5,873	6,935	6,021	5,729	6,010	70,919

See footnotes at end of table.

Table 2.—Supply and demand of all oils in the United States, by months—Continued

(Thousand barrels)

	1966 p												
	January	February	March	April	May	June	July	August	September	October	November	December	Total
Domestic demand:													
Gasoline:													
Motor gasoline	129,107	123,439	142,368	144,236	149,633	161,764	156,198	161,580	146,931	147,694	144,533	147,428	1,754,911
Aviation gasoline	3,470	2,542	3,073	3,026	4,041	3,630	3,395	2,962	2,993	3,232	3,430	2,828	38,622
Total	132,577	125,981	145,441	147,262	153,674	165,394	159,593	164,542	149,924	150,926	147,963	150,256	1,793,533
Special naphthas	2,731	2,267	2,888	2,423	2,843	2,607	2,353	2,568	2,625	2,447	2,373	2,135	30,260
Kerosine	14,122	12,079	8,658	6,108	5,851	4,874	4,562	5,873	7,460	7,854	10,660	13,013	101,114
Distillate fuel oil	96,102	88,388	76,477	63,334	53,228	48,505	43,311	51,327	50,395	58,600	74,670	92,902	797,239
Residual fuel oil	65,882	64,660	65,893	49,121	43,216	44,401	43,003	45,054	42,089	47,285	52,961	62,881	626,446
Jet fuel:													
Naphtha-type jet fuel	7,404	6,372	7,791	8,712	8,900	8,071	8,730	9,986	8,961	9,184	8,888	8,636	101,635
Kerosine-type jet fuel	11,243	11,224	12,134	12,768	11,449	12,638	9,012	9,475	12,091	13,685	12,660	14,345	142,724
Total	18,647	17,596	19,925	21,480	20,349	20,709	17,742	19,461	21,052	22,869	21,548	22,981	244,359
Lubricants	4,058	3,597	4,572	4,409	4,397	4,227	4,137	4,341	3,962	4,258	3,014	3,973	48,945
Wax	346	302	403	355	363	344	287	318	278	299	335	289	3,919
Coke	6,504	6,003	6,225	5,772	6,092	5,802	6,098	6,372	5,725	6,008	6,471	6,609	73,681
Asphalt	3,655	3,458	6,109	8,107	12,107	17,192	17,534	19,556	16,502	15,831	9,218	4,807	134,076
Road oil	63	53	142	295	604	1,122	1,404	1,472	875	525	229	128	6,912
Still gas for fuel	11,179	10,453	10,060	11,143	11,412	11,577	12,296	11,990	11,609	11,022	11,111	11,607	135,459
Liquefied gases (including ethane):													
L.R.G. for fuel use	6,133	5,205	5,183	4,778	4,765	4,645	4,553	5,009	4,547	4,580	4,854	5,524	59,776
L.R.G. for chemical use	4,389	3,803	3,985	4,303	4,455	3,526	3,802	3,961	3,605	3,473	3,863	3,606	46,771
L.P.G. for fuel and chemical use	24,250	21,507	18,035	14,894	13,721	13,409	13,312	14,511	15,963	19,086	22,508	26,195	217,391
Total	34,772	30,515	27,203	23,975	22,941	21,580	21,667	23,481	24,115	27,139	31,225	35,325	323,938
Petrochemical feedstocks: [3]													
Still gas	742	648	927	941	774	813	739	894	864	951	824	951	10,068
Naphtha-400°	2,720	2,159	2,613	3,660	2,865	3,411	3,686	3,779	3,496	3,794	3,667	4,004	39,854
Other	2,118	1,542	2,082	1,688	2,070	2,124	1,893	2,133	2,106	1,825	1,961	2,333	23,875
Total	5,580	4,349	5,622	6,289	5,709	6,348	6,318	6,806	6,466	6,570	6,452	7,288	73,797
Miscellaneous	1,349	1,125	1,437	1,532	1,312	1,607	1,404	1,603	1,426	1,273	1,494	1,560	17,122
Domestic product demand	397,567	370,826	381,055	351,605	344,098	356,289	341,709	364,764	344,503	362,906	379,724	415,754	4,410,800
Crude losses	321	292	315	302	320	316	330	328	320	325	311	328	3,808
Less net processing gain	8,226	6,747	7,616	6,990	6,335	6,514	6,779	8,312	7,413	8,756	8,651	7,196	89,535
Total domestic demand	389,662	364,371	373,754	344,917	338,083	350,091	335,260	356,780	337,410	354,475	371,384	408,886	4,325,073

Stocks:													
Crude petroleum	220,302	223,422	233,224	245,232	250,418	253,388	246,877	245,347	238,198	236,092	241,692	238,391	238,391
Natural gas liquids	28,854	24,744	26,432	30,565	36,400	41,422	46,334	50,631	52,389	52,203	47,903	40,423	40,423
Refined products	569,546	546,442	543,350	537,135	555,163	555,523	586,190	596,813	614,766	628,652	616,603	595,651	595,651
Total	818,702	794,608	803,006	812,932	841,981	850,333	879,401	892,791	905,353	916,947	906,198	874,465	874,465

[p] Preliminary.

[1] Bureau of Mines data for crude oil and unfinished oils, U. S. Department of Commerce data for all other imports.

[2] U. S. Department of Commerce data.

[3] Liquefied refinery gas.

[4] Liquefied petroleum gas.

[5] Produced at petroleum refineries. Data for LRG for petrochemical feedstocks are included with those for "Liquefied gases."

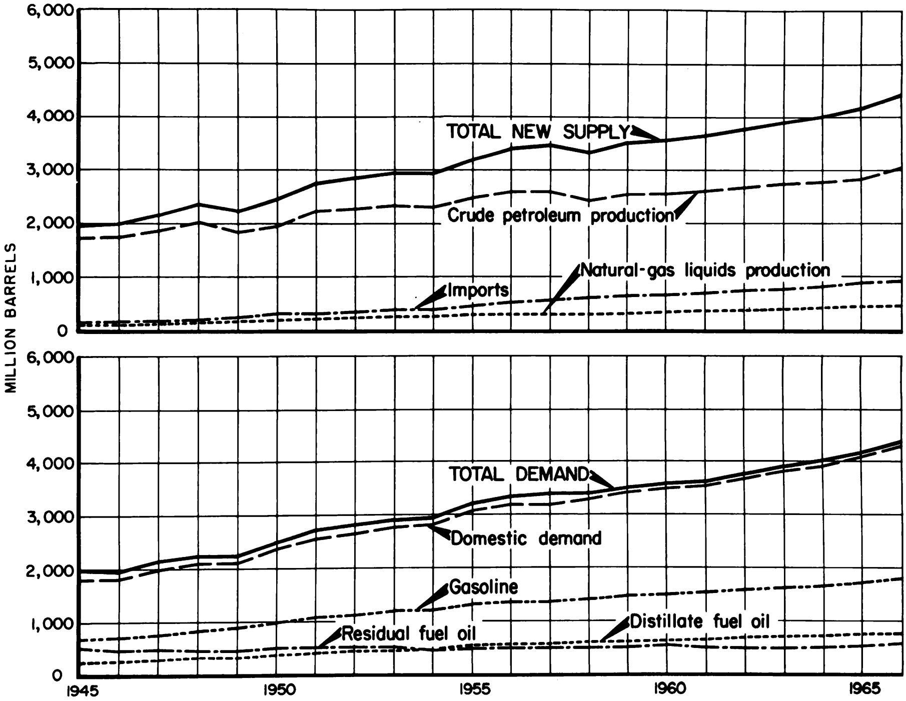

Figure 1.—Supply and demand for all oils in the United States. 1945–66.

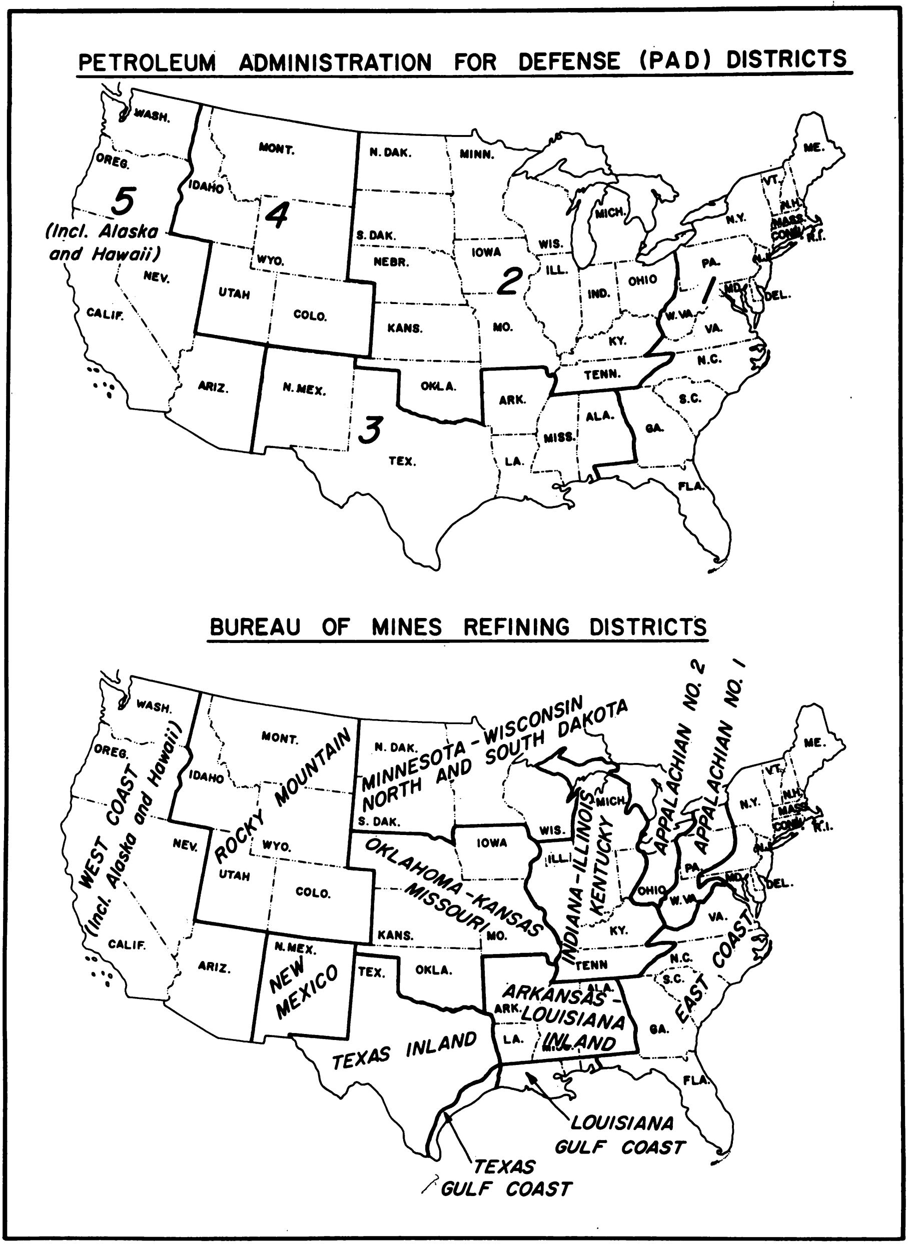

Figure 2.—Map of PAD Districts and Bureau of Mines Refining Districts.

Table 3.—Estimates of proved crude-oil reserves in the United States, December 31, by States [1]

(Million barrels)

State	1959	1960	1961	1962	1963	1964	1965	1966
Eastern States:								
Illinois	594	556	503	460	417	391	371	362
Indiana	74	66	62	61	63	61	57	48
Kentucky	136	129	116	109	100	118	108	101
Michigan	55	78	79	75	69	58	53	71
New York	34	32	28	23	18	14	12	10
Ohio	74	75	76	77	88	100	101	101
Pennsylvania	114	108	102	97	92	87	77	73
West Virginia	51	51	51	56	57	59	55	57
Total	1,132	1,095	1,017	958	904	888	834	823
Central and Southern States:								
Arkansas	313	302	281	247	225	205	201	181
Kansas	917	884	878	862	841	797	752	726
Louisiana [2]	4,660	4,785	4,931	5,087	5,089	5,162	5,246	5,408
Mississippi	389	407	401	388	385	357	360	374
Nebraska	81	86	100	94	84	71	71	57
New Mexico	1,026	1,084	1,090	1,065	1,011	957	895	1,025
North Dakota	382	431	413	404	389	377	395	321
Oklahoma	1,865	1,791	1,787	1,728	1,628	1,586	1,517	1,518
Texas [2]	14,860	14,758	14,850	14,648	14,573	14,300	14,303	14,077
Total	24,493	24,528	24,731	24,523	24,225	23,812	23,740	23,687
Mountain States:								
Colorado	381	364	420	388	368	346	327	344
Montana	309	267	251	249	271	252	274	282
Utah	195	208	218	198	220	219	197	213
Wyoming	1,403	1,427	1,381	1,297	1,254	1,204	1,169	1,073
Total	2,288	2,266	2,270	2,132	2,113	2,021	1,967	1,912
Pacific Coast States: California [2]	3,763	3,659	3,615	3,648	3,600	4,125	4,567	4,608
Other States [3]	43	65	126	128	128	145	244	422
Total United States	31,719	31,613	31,759	31,389	30,970	30,991	31,352	31,452

[1] From reports of Committee on Petroleum Reserves, American Petroleum Institute. Includes crude oil that may be extracted by present methods from fields completely developed or sufficiently explored to permit reasonably accurate calculations. The change in reserves during any year represents total new discoveries, extensions, and revisions, minus production.

[2] Includes offshore reserves.

[3] Includes Alabama, Alaska 1965–66, Arizona, Florida, Missouri, Nevada, South Dakota, Tennessee, Virginia, Washington 1959–60.

Table 4.—Supply and demand for crude petroleum in the United States

(Thousand barrels)

	1962	1963	1964	1965	1966 p
Production	2,676,189	2,752,723	2,786,822	2,848,514	3,027,763
Imports [1]	411,039	412,660	438,643	452,040	447,120
Total new supply	3,087,228	3,165,383	3,225,465	3,300,554	3,474,883
Increase (+) or decrease (−) in stocks, end of year	+7,347	−14,650	−7,304	−9,768	+18,102
Demand:					
Domestic crude	2,669,398	2,767,129	2,795,130	2,856,918	3,009,900
Foreign crude	410,483	412,904	437,639	453,404	446,881
Total demand	3,079,881	3,180,033	3,232,769	3,310,322	3,456,781
Runs to stills:					
Domestic	2,659,826	2,758,168	2,785,895	2,847,821	3,000,789
Foreign	409,805	412,484	437,434	453,021	446,404
Exports [2]	1,790	1,698	1,363	1,097	1,477
Transfers to fuel oil:					
Distillate	1,198	807	755	773	752
Residual	3,797	3,305	3,720	3,950	3,551
Other fuel losses	3,465	3,571	3,602	3,660	3,808
Total demand	3,079,881	3,180,033	3,232,769	3,310,322	3,456,781

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[1] Bureau of Mines data.

[2] U. S. Department of Commerce data.

Table 5.—Supply of and demand for crude petroleum in the United States, by months

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Supply:													
Production	240,946	218,612	243,763	236,844	238,253	232,440	237,606	240,180	222,529	244,122	239,635	253,584	2,848,514
Imports [1]	37,344	32,685	41,398	38,110	38,961	39,912	40,691	40,770	43,152	39,111	32,024	27,882	452,040
Total new supply	278,290	251,297	285,161	274,954	277,214	272,352	278,297	280,950	265,681	283,233	271,659	281,466	3,300,554
Change in stocks, end of period:													
Domestic	−1,554	−276	+6,411	+11,162	+3,429	−1,376	−9,586	−5,932	−5,904	+676	−3,301	−2,153	−8,404
Foreign	+1,662	+379	+2,884	+650	+267	−109	−1,899	+212	+623	+40	−1,818	−4,255	−1,364
Demand:													
Domestic	242,500	218,888	237,352	225,682	234,824	233,816	247,192	246,112	228,433	243,446	242,936	255,737	2,856,918
Foreign	35,682	32,306	38,514	37,460	38,694	40,021	42,590	40,558	42,529	39,071	33,842	32,137	453,404
Runs to stills:													
Domestic	241,431	218,033	236,728	224,879	234,242	233,094	246,043	245,571	227,740	242,641	242,223	255,196	2,847,821
Foreign	35,650	32,275	38,483	37,448	38,673	40,020	42,636	40,485	42,501	39,052	33,803	31,995	453,021
Exports [2]	89	45	3	187	-----	68	421	-----	-----	182	94	8	1,097
Transfers:													
Distillate	65	65	89	63	56	61	61	66	63	63	59	62	773
Residual	640	496	258	273	244	291	302	232	358	267	293	296	3,950
Losses	307	280	305	292	303	303	319	316	300	312	306	317	3,660
1966: p													
Supply:													
Production	249,459	230,733	257,107	248,155	258,677	250,391	255,121	255,812	247,632	258,008	252,825	263,843	3,027,763
Imports [1]	41,956	34,658	38,765	36,508	37,330	38,959	39,062	41,458	36,004	36,019	34,413	31,988	447,120
Total new supply	291,415	265,391	295,872	284,663	296,007	289,350	294,183	297,270	283,636	294,027	287,238	295,831	3,474,883
Change in stocks, end of period:													
Domestic	−2,670	+2,497	+9,318	+9,954	+6,272	+1,672	−5,592	−3,962	−6,588	−66	+6,943	+85	+17,863
Foreign	+2,683	+623	+484	+2,054	−1,086	+1,298	−919	+2,432	−561	−2,040	−1,343	−3,386	+239
Demand:													
Domestic	252,129	228,236	247,789	238,201	252,405	248,719	260,713	259,774	254,220	258,074	245,882	263,758	3,009,900
Foreign	39,273	34,035	38,281	34,454	38,416	37,661	39,981	39,026	36,565	38,059	35,756	35,374	446,881
Runs to stills:													
Domestic	251,325	227,527	247,109	237,265	251,691	247,917	259,783	258,902	253,711	257,350	245,183	263,026	3,000,789
Foreign	39,293	34,104	38,163	34,444	38,429	37,648	39,986	39,003	36,361	38,031	35,705	35,237	446,404
Exports [2]	135	---	108	290	1	130	240	186	83	95	88	121	1,477
Transfers:													
Distillate	62	60	66	62	59	64	63	65	62	60	65	64	752
Residual	266	288	309	292	321	305	292	316	248	272	286	356	3,551
Losses	321	292	315	302	320	316	330	328	320	325	311	328	3,808

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[1] Bureau of Mines data.

[2] U. S. Department of Commerce.

Table 6.—Production of crude petroleum in the United States, by States and months [1]

(Thousand barrels)

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Alabama	687	658	684	726	665	468	423	734	765	779	737	738	8,064
Alaska	944	849	941	912	943	916	930	947	912	943	914	977	11,128
Arkansas	2,216	2,016	2,234	2,166	2,203	2,137	2,220	2,230	2,126	2,226	2,047	2,109	25,930
California, total [2]	25,722	23,576	26,232	25,577	26,725	25,927	26,853	26,829	26,314	27,816	26,953	27,904	316,428
Coastal Region	5,614	5,094	5,678	5,361	5,607	5,473	5,504	5,424	5,286	5,879	5,674	5,792	66,386
Los Angeles	8,957	8,079	9,107	8,708	9,128	8,761	9,008	9,047	8,905	9,402	9,209	9,580	107,891
San Joaquin Valley Region	11,151	10,403	11,447	11,508	11,990	11,693	12,341	12,358	12,123	12,535	12,070	12,532	142,151
Colorado [3]	2,948	2,658	2,942	2,814	2,895	2,765	2,814	2,790	2,673	2,748	2,681	2,783	33,511
Florida	78	75	82	90	110	119	125	122	140	173	168	182	1,464
Illinois	5,418	4,830	5,627	5,394	5,435	5,383	5,395	5,399	5,194	5,260	4,964	5,409	63,708
Indiana	914	802	1,002	964	1,107	956	958	965	928	968	903	1,014	11,481
Kansas [4]	8,826	8,023	9,077	8,785	8,750	8,357	8,880	8,884	8,569	9,018	8,695	8,869	104,733
Kentucky	1,646	1,422	1,691	1,532	1,659	1,633	1,559	1,642	1,592	1,625	1,636	1,749	19,386
Louisiana, total [5]	49,996	45,203	50,004	48,241	49,201	48,462	50,029	50,144	39,611	53,863	53,981	56,118	594,853
Gulf Coast	45,153	40,873	45,231	43,735	44,584	43,988	45,438	45,532	35,191	49,110	49,342	51,360	539,537
Rest of State	4,843	4,330	4,773	4,506	4,617	4,474	4,591	4,612	4,420	4,753	4,639	4,758	55,316
Michigan [6]	1,217	1,126	1,260	1,226	1,235	1,205	1,245	1,220	1,272	1,238	1,227	1,257	14,728
Mississippi	4,769	4,563	4,723	4,577	4,687	4,541	4,701	4,719	4,512	5,041	4,612	4,738	56,183
Montana [7]	2,556	2,361	2,667	2,551	2,707	2,664	2,838	2,927	2,817	2,939	2,903	2,848	32,778
Nebraska	1,596	1,429	1,563	1,475	1,480	1,411	1,429	1,428	1,354	1,385	1,343	1,323	17,216
New Mexico, total [8]	10,319	9,370	10,313	9,889	10,127	9,618	9,860	9,841	9,576	10,086	9,836	10,331	119,166
Southeastern	9,366	8,498	9,315	8,905	9,148	8,685	8,910	8,908	8,652	9,095	8,839	9,266	107,587
Northwestern	953	872	998	984	979	933	950	933	924	991	997	1,065	11,579
New York	133	127	145	136	133	130	144	141	133	133	138	139	1,632
North Dakota [9]	2,352	2,116	2,375	2,367	2,363	2,219	2,367	2,372	1,625	1,576	2,165	2,453	26,350
Ohio	1,148	1,103	1,059	1,098	1,039	1,057	1,096	1,127	1,095	1,053	1,002	1,031	12,908
Oklahoma	17,011	15,553	17,588	17,464	17,368	16,466	16,031	17,322	17,183	16,530	16,667	18,258	203,441
Pennsylvania	365	353	415	413	414	419	437	435	437	421	402	411	4,922
Texas, total	85,126	77,173	84,860	82,952	82,842	82,166	84,066	84,251	80,721	84,990	82,519	89,083	1,000,749
Gulf Coast	15,902	14,280	15,833	15,512	15,529	15,447	15,926	15,940	15,084	16,187	15,442	16,670	187,752
West Texas	39,023	35,361	38,975	38,075	38,215	37,715	38,658	38,621	37,363	39,527	38,646	40,493	460,672
East Texas Field	3,459	3,160	3,485	3,401	3,310	3,286	3,387	3,391	3,251	3,468	3,212	3,694	40,504
Rest of State	26,742	24,372	26,567	25,964	25,788	25,718	26,095	26,299	25,023	25,808	25,219	28,226	311,821
Utah [10]	2,203	2,037	2,245	2,123	2,084	2,143	2,113	2,140	2,063	2,135	2,019	1,993	25,298
West Virginia	280	267	345	279	283	298	283	298	305	295	288	309	3,530
Wyoming	12,434	10,882	13,643	13,048	11,749	10,935	10,764	11,226	10,547	10,816	10,769	11,501	138,314
Other States	42	40	46	45	49	45	46	47	65	65	66	57	[11] 613
Total:													
1965	240,946	218,612	243,763	236,844	238,253	232,440	237,606	240,180	222,529	244,122	239,635	253,584	2,848,514
1964	236,337	222,947	239,068	232,185	234,742	226,808	231,648	230,926	225,965	236,304	229,029	240,863	2,786,822
Daily average, 1965	7,773	7,808	7,863	7,895	7,686	7,748	7,665	7,748	7,418	7,875	7,988	8,180	7,804
Pennsylvania grade (included above)	916	888	1,034	976	964	997	1,011	1,023	1,013	978	958	1,004	11,762

1966:													
Alabama	729	652	723	666	687	644	679	671	654	668	638	619	8,030
Alaska	993	955	972	919	1,146	1,068	1,220	1,306	1,231	1,444	1,508	1,596	14,358
Arkansas	1,874	1,921	2,051	2,075	2,096	2,001	2,028	2,014	1,932	1,973	1,901	1,958	23,824
California, total [2]	28,044	25,748	28,889	28,126	29,404	28,312	29,397	29,669	28,739	29,997	29,236	29,734	345,295
Coastal Region	5,629	5,256	5,985	5,712	5,968	5,599	5,930	6,021	5,791	5,967	5,860	5,756	69,474
Los Angeles	9,805	9,008	10,208	9,950	10,472	10,095	10,617	10,717	10,507	11,029	10,604	11,015	124,027
San Joaquin Valley Region	12,610	11,484	12,696	12,464	12,964	12,618	12,850	12,931	12,441	13,001	12,772	12,963	151,794
Colorado [3]	2,834	2,560	2,902	2,768	2,814	2,758	2,823	2,825	2,716	2,875	2,782	2,835	33,492
Florida	176	161	171	160	153	147	148	144	131	137	132	139	1,799
Illinois	5,131	4,584	5,369	5,034	5,265	5,090	5,154	5,360	5,106	5,273	5,101	5,194	61,661
Indiana	854	762	993	948	926	964	908	681	839	950	907	885	10,617
Kansas [4]	8,560	8,022	9,016	8,696	8,928	8,671	8,726	8,910	8,622	8,717	8,586	8,284	103,738
Kentucky	1,595	1,419	1,668	1,500	1,564	1,511	1,507	1,550	1,455	1,476	1,409	1,412	18,066
Louisiana, total [5]	55,418	51,563	56,454	54,570	56,911	55,412	56,681	56,924	55,276	57,441	57,412	60,256	674,318
Gulf Coast	50,737	47,284	51,720	50,117	52,413	51,028	52,153	52,387	50,868	52,932	52,919	55,543	620,101
Rest of State	4,681	4,279	4,734	4,453	4,498	4,384	4,528	4,537	4,408	4,509	4,493	4,713	54,217
Michigan [6]	1,197	1,124	1,212	1,207	1,226	1,191	1,175	1,221	1,162	1,206	1,147	1,205	14,273
Mississippi	4,851	4,140	4,697	4,546	4,661	4,528	4,685	4,740	4,367	4,677	4,549	4,786	55,227
Montana [7]	2,908	2,728	2,981	2,969	3,053	2,927	3,017	3,024	2,912	2,941	2,870	3,050	35,380
Nebraska	1,260	1,127	1,205	1,162	1,179	1,123	1,143	1,164	1,131	1,136	1,091	1,129	13,850
New Mexico, total [8]	10,363	9,589	10,531	10,227	10,504	10,109	10,306	10,298	10,112	10,584	10,590	10,941	124,154
Southeastern	9,268	8,621	9,531	9,306	9,567	9,221	9,383	9,364	9,218	9,665	9,680	9,974	112,798
Northwestern	1,095	968	1,000	921	937	888	923	934	894	919	910	967	11,356
New York	125	121	140	143	155	155	144	158	150	151	146	147	1,735
North Dakota [9]	2,340	2,192	2,415	2,170	2,218	2,211	2,279	2,283	2,199	2,378	2,166	2,275	27,126
Ohio	961	898	1,025	950	948	978	884	907	872	822	830	824	10,899
Oklahoma	18,178	16,987	19,290	18,484	19,374	18,754	19,039	18,863	18,218	19,088	18,618	19,946	224,839
Pennsylvania	320	324	376	348	370	381	369	386	371	373	361	358	4,337
Texas, total	87,457	80,192	90,287	87,067	91,255	88,133	89,143	88,770	85,779	89,710	87,631	92,282	1,057,706
Gulf Coast	16,139	14,678	16,630	16,319	17,142	16,377	16,614	16,468	15,973	16,796	16,263	17,294	196,693
West Texas	40,638	37,288	42,016	40,720	42,670	41,342	41,658	41,633	39,941	41,850	40,906	42,999	493,661
East Texas Field	3,705	3,377	3,801	3,694	3,933	3,762	3,779	3,755	3,658	3,801	3,782	4,061	45,108
Rest of State	26,975	24,849	27,840	26,334	27,510	26,652	27,092	26,914	26,207	27,263	26,680	27,928	322,244
Utah [10]	2,063	1,813	1,902	1,935	2,007	1,950	2,036	2,107	2,078	2,126	2,017	2,078	24,112
West Virginia	247	251	315	289	304	265	325	330	336	334	339	339	3,674
Wyoming	10,928	10,854	11,461	11,118	11,444	11,056	11,233	11,444	11,173	11,465	10,793	11,501	134,470
Other States	53	46	62	78	85	52	72	63	71	66	65	70	[12] 783

Table 6.—Production of crude petroleum in the United States, by States and months [1]—Continued

(Thousand barrels)

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total:													
1966	249,459	230,733	257,107	248,155	258,677	250,391	255,121	255,812	247,632	258,008	252,825	263,843	3,027,763
1965	240,946	218,612	243,763	236,844	238,253	232,440	237,606	240,180	222,529	244,122	239,635	253,584	2,848,514
Daily average, 1966	8,047	8,240	8,294	8,272	8,344	8,346	8,230	8,252	8,254	8,323	8,427	8,511	8,295
Pennsylvania grade (included above)	827	829	999	938	985	1,006	1,013	1,068	1,054	1,043	1,043	1,033	11,838

[1] Includes field condensate.

[2] Conservation Committee of California Oil Producers.

[3] Colorado Oil Conservation Commission.

[4] Kansas Geological Survey.

[5] Louisiana Conservation Commission.

[6] Michigan Department of Conservation.

[7] Montana Oil Conservation Board.

[8] New Mexico Oil and Gas Conservation Commission.

[9] North Dakota Geological Survey.

[10] Utah Oil and Gas Conservation Commission.

[11] Includes Arizona (97), Missouri (73), Nevada (209), South Dakota (219), Tennessee (11), and Virginia (4).

[12] Includes Arizona (132), Missouri (97), Nevada (360), South Dakota (239), Tennessee (7), and Virginia (1).

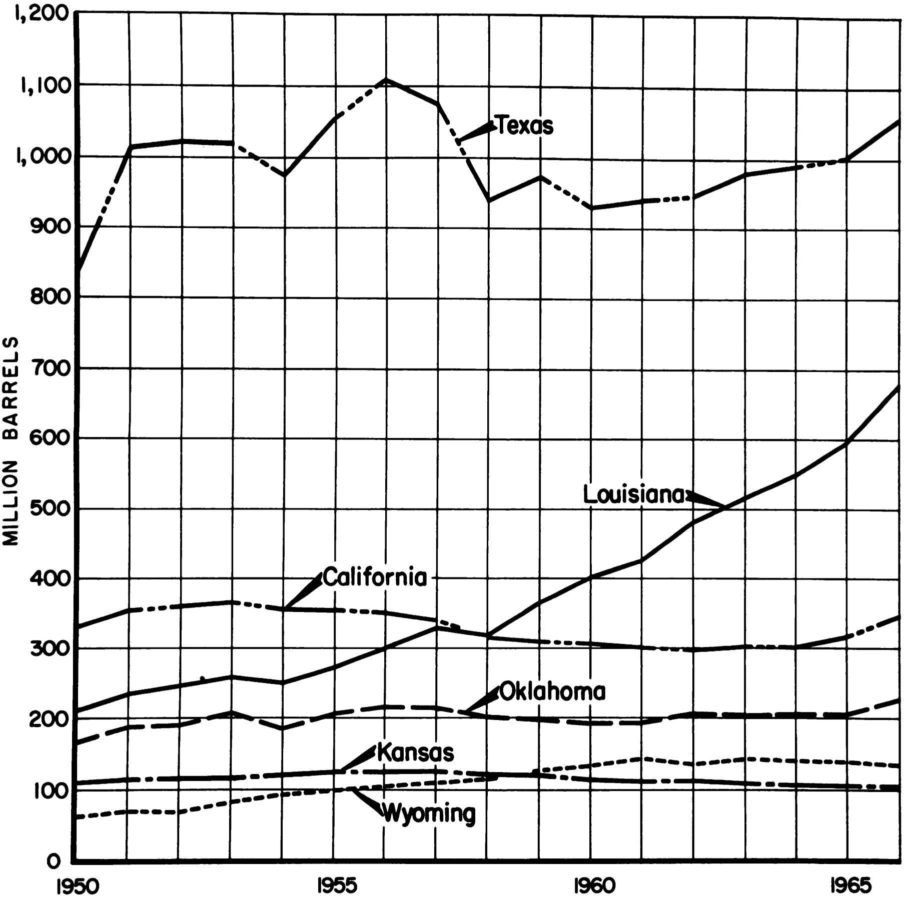

Figure 3.—Production of crude petroleum in the United States, 1950–66 by principal producing States.

Table 7.—Percentage of total crude petroleum produced in the United States, by States

State	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Texas	41.0	38.4	37.8	36.0	35.8	35.2	35.5	35.5	35.1	34.9
Louisiana	12.6	12.8	14.1	15.6	16.2	17.8	18.7	19.7	20.9	22.3
California	13.0	12.8	12.0	11.8	11.4	11.1	10.9	10.8	11.1	11.4
Oklahoma	8.2	8.2	7.7	7.5	7.4	7.6	7.3	7.3	7.1	7.4
Wyoming	4.2	4.7	4.9	5.2	5.4	5.1	5.2	5.0	4.9	4.4
New Mexico	3.6	4.0	4.1	4.2	4.3	4.1	4.0	4.1	4.1	4.1
Kansas	4.7	4.9	4.6	4.4	4.3	4.2	4.0	3.8	3.7	3.4
Illinois	2.9	3.3	3.0	3.0	2.9	2.9	2.7	2.5	2.3	2.0
Mississippi	1.5	1.6	1.9	2.0	2.1	2.1	2.1	2.0	1.9	1.8
Montana	1.0	1.1	1.2	1.2	1.1	1.2	1.1	1.1	1.2	1.1
Colorado	2.1	2.0	1.8	1.9	1.8	1.6	1.4	1.2	1.2	1.2
Arkansas	1.2	1.2	1.0	1.2	1.2	1.0	1.0	1.0	.9	.8
Kentucky	.7	.7	1.1	.8	.7	.7	.7	.7	.7	.6
Michigan	.4	.4	.4	.6	.7	.6	.6	.6	.5	.5
Other States	2.9	3.9	4.4	4.6	4.7	4.8	4.8	4.7	4.4	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 8.—Production and reserves of crude petroleum in leading fields in the United States

(Thousand barrels)

Field [1]	State	1965	1966	Total since discovery [2]	Estimated reserves
Wilmington	California	37,051	47,116	1,098,767	1,502,255
East Texas	Texas	40,851	45,988	3,711,749	1,398,251
Sho-Vel-Tum	Oklahoma	28,769	30,712	742,835	158,288
Bay Marchand, Block 2	Louisiana	25,298	27,211	183,534	417,002
Caillou Island	do	23,500	26,521	289,816	210,184
Midway-Sunset	California	22,286	25,952	996,210	196,898
Seeligson (all fields)	Texas	27,580	25,211	288,249	170,329
Timbalier Bay	Louisiana	19,037	23,775	159,187	140,813
Panhandle	Texas	24,487	22,976	1,158,314	488,670
South Pass, Block 24	Louisiana	21,576	22,163	256,025	493,975
Huntington Beach	California	19,353	22,107	775,076	158,824
Kelly-Snyder	Texas	27,199	22,011	372,349	815,951
West Delta Block 30	Louisiana	21,103	20,556	121,646	278,354
South Pass, Block 27	do	18,323	20,179	111,345	199,655
Elk Basin	Montana, Wyoming	16,351	19,889	308,341	91,659
Sprayberry Trend	Texas	19,865	19,867	224,111	56,033
Kern River	California	14,034	19,625	427,303	187,432
San Ardo	do	12,522	17,529	175,099	101,365
Ward-Estes N.	Texas	20,227	16,917	224,704	82,296
Rangeley	Colorado	12,355	16,182	392,930	207,070
Lake Barre	Louisiana	12,414	15,049	103,758	146,242
Vacuum	New Mexico	11,361	13,812	145,563	139,437
Goldsmith	Texas	26,113	13,608	386,202	84,798
Headlee and North	do	13,938	13,484	66,532	135,120
Slaughter	do	16,676	13,461	336,965	103,035
Golden Trend	Oklahoma	13,544	13,440	310,300	184,700
Ventura	California	10,792	13,215	720,979	96,949
Wasson	Texas	25,276	13,170	443,829	206,171
Grand Isle Block 16	Louisiana	11,743	12,963	65,924	109,076
Salt Creek	Wyoming	8,968	12,916	441,585	68,415
Main Pass, Block 69	Louisiana	10,946	11,807	102,962	197,038
Sooner-Trend (Dover-Hennessey)	Oklahoma	9,680	11,496	51,139	49,504
Hawkins	Texas	14,891	10,788	322,708	203,243
West Bay	Louisiana	9,122	10,692	99,548	110,452
West Delta Block 73	do	[3]	10,689	18,580	10,000
Burbank	Oklahoma	12,017	10,655	457,881	42,119
Old Illinois	Illinois	8,593	10,476	632,994	42,006
Swanson River	Alaska	11,056	10,406	61,665	188,335
Tom O'Connor	Texas	12,945	10,295	304,881	145,792
Aneth	Utah	10,816	10,280	193,454	258,546
Lake Washington	Louisiana	9,661	10,203	125,053	174,947
Hastings, East and West	Texas	12,900	9,918	365,074	134,926
Bayou Sale	Louisiana	8,365	9,325	112,667	87,343
South Timbalier Block 135	do	[3]	9,310	25,944	27,100
Katy, North	Texas	9,734	9,251	21,507	60,000
Midland Farms (all)	do	14,270	9,187	125,691	86,128
McElroy	do	11,502	8,843	238,639	111,361
Garden Island Bay	Louisiana	6,682	8,772	64,116	55,884
Sand Hills	Texas	12,292	8,766	132,555	64,445
Oregon Basin	Wyoming	8,284	8,712	139,930	47,070
Loudon	Illinois	9,163	8,533	320,639	29,361
Main Pass Block 41	Louisiana	3,438	8,486	14,126	29,874
Cowden (and Foster and Johnson)	Texas	11,530	8,380	225,291	94,709
Coalinga Nose	California	8,971	8,282	389,741	93,763
Pegasus	Texas	8,916	8,021	84,138	52,862
Keystone	do	10,512	7,819	215,062	87,938
Howard Glasscock	do	8,961	7,696	240,480	42,850
West Ranch	do	8,925	7,667	186,420	92,391
Belridge South	California	7,672	7,662	124,728	77,078
La Fitte	Louisiana	6,443	7,642	133,662	86,337
Levelland	Texas	6,997	7,611	155,084	95,612
Wichita County Reg.	do	8,555	7,566	465,657	52,436
Buena Vista	California	8,160	7,537	539,986	75,088
Bay St. Elaine	Louisiana	7,431	7,447	86,522	66,478
Borregos	Texas	10,823	7,355	62,799	88,201
Agua Dulce-Stratton	do	8,897	7,326	197,777	63,223
McKittrick North East	California	4,852	7,309	12,965	56,064
Citronelle	Alabama	6,986	7,281	63,636	56,364
Cowden, North	Texas	9,828	7,271	197,925	62,075

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[1] Fields under 7 million barrels not shown for current year.
[2] Includes revisions, if any.
[3] Not reported.

Source: Oil and Gas Journal.

Table 9.—Well completions in the United States, by months [1]

Wells	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total Number	Total Percent
1965:														
Oil	1,455	1,554	1,522	1,478	1,354	1,583	1,521	1,784	1,844	1,375	1,606	1,685	18,761	47.5
Gas [2]	416	410	461	326	285	424	360	430	460	347	436	369	4,724	12.0
Dry	1,244	1,291	1,211	1,267	1,257	1,450	1,378	1,435	1,464	1,303	1,378	1,347	16,025	40.5
Total	3,115	3,255	3,194	3,071	2,896	3,457	3,259	3,649	3,768	3,025	3,420	[3] 3,401	39,510	100.0
1966: [3]														
Oil	1,039	1,383	1,506	1,263	1,369	1,533	1,382	1,586	1,187	1,478	1,274	1,780	16,780	46.1
Gas [2]	282	412	441	350	369	321	270	421	315	351	399	446	4,377	12.0
Dry	908	1,163	1,275	1,121	1,130	1,306	1,077	1,539	1,113	1,407	1,227	1,961	15,227	41.9
Total	2,229	2,958	3,222	2,734	2,868	3,160	2,729	3,546	2,615	3,236	2,900	4,187	36,384	100.0

[1] Excludes service wells.
[2] Includes condensate wells.
[3] Bureau of Mines estimates based on Oil and Gas Journal data.

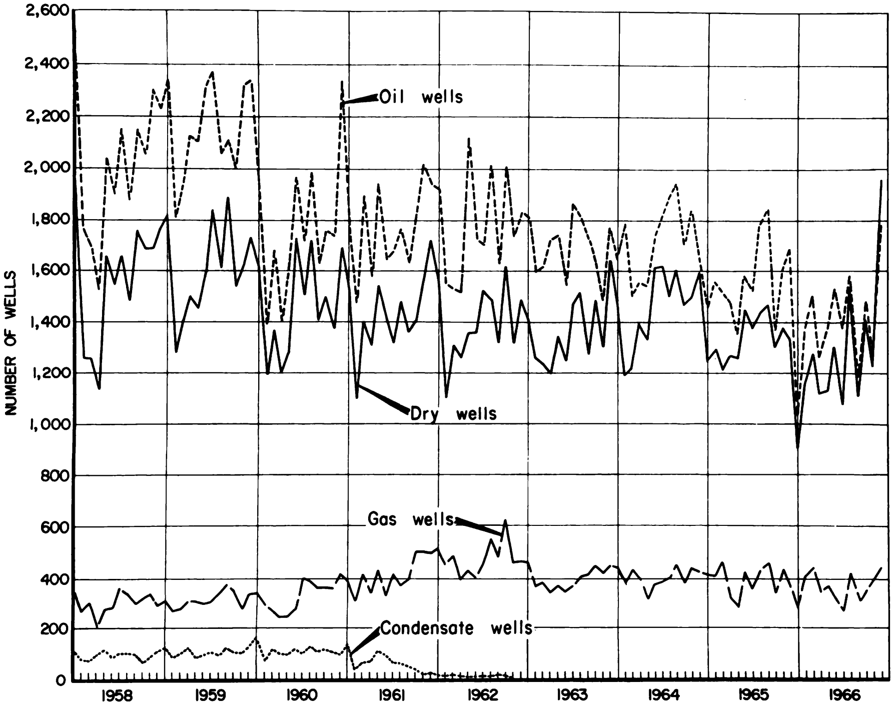

Figure 4.—Wells drilled for oil and gas in the United States, 1958–66, by months.

Table 10.—Well completions in the United States, by States and districts [1]

State and district	1965				1966			
	Oil	Gas [2]	Dry	Total	Oil	Gas [2]	Dry	Total
Alabama	13	-----	23	36	6	-----	21	27
Alaska	11	13	4	28	15	5	30	50
Arizona	-----	-----	33	33	-----	-----	17	17
Arkansas	100	44	190	334	177	56	272	505
California	1,622	62	484	2,168	1,832	63	413	2,308
Colorado	113	53	410	576	122	53	363	538
Florida	15	-----	11	26	4	-----	13	17
Georgia	-----	-----	-----	-----	-----	-----	1	1
Idaho	-----	-----	-----	-----	-----	-----	1	1
Illinois	602	8	608	1,218	730	3	658	1,391
Indiana	140	10	312	462	140	12	382	534
Iowa	-----	-----	15	15	-----	-----	1	1
Kansas	1,466	206	1,422	3,094	1,079	130	1,427	2,636
Kentucky	379	177	559	1,115	674	168	1,273	2,115
Louisiana:								
North	1,239	299	1,090	2,628	510	172	701	1,383
South	753	187	674	1,614	654	205	711	1,570
Offshore	421	56	380	857	488	123	379	990
Total	2,413	542	2,144	5,099	1,652	500	1,791	3,943
Maryland	-----	1	1	2	-----	3	-----	3
Michigan	44	36	288	368	64	44	294	402
Mississippi	201	15	523	739	250	41	544	835
Missouri	-----	-----	1	1	-----	-----	5	5
Montana	194	10	293	497	214	11	327	552
Nebraska	93	1	327	421	62	1	226	289
Nevada	6	-----	9	15	-----	-----	-----	-----
New Mexico:								
West	30	243	66	339	21	295	99	415
East	465	60	248	773	545	47	230	822
Total	495	303	314	1,112	566	342	329	1,237
New York	375	18	39	432	6	19	41	66
North Carolina	-----	-----	7	7	-----	-----	11	11
North Dakota	91	-----	148	239	78	-----	107	185
Ohio	715	263	911	1,889	674	236	402	1,312
Oklahoma	2,183	549	1,277	4,009	1,843	561	1,329	3,733
Oregon	-----	-----	4	4	-----	-----	3	3
Pennsylvania	572	286	128	986	279	306	104	689
South Dakota	4	-----	29	33	2	-----	12	14
Tennessee	4	3	13	20	4	1	57	62
Texas:								
Gulf Coast	649	414	955	2,018	488	274	814	1,576
West	1,965	207	833	3,005	2,014	228	711	2,953
East	290	113	337	740	333	93	285	711
Other districts	3,279	609	2,689	6,577	2,686	575	2,247	5,508
Total	6,183	1,343	4,814	12,340	5,521	1,170	4,057	10,748
Utah	71	27	71	169	69	7	66	142
Vermont	-----	-----	1	1	-----	-----	-----	-----
Virginia	1	1	2	4	-----	-----	-----	-----
Washington	-----	-----	3	3	-----	-----	3	3
West Virginia	257	695	115	1,067	370	594	130	1,094
Wyoming	398	58	492	948	347	51	517	915
Total United States	18,761	4,724	16,025	39,510	16,780	4,377	15,227	36,384

[1] Excludes service wells.
[2] Includes condensate wells.

Source: Oil and Gas Journal.

Table 11.—Producing oil wells in the United States and average production per well per day, by States

State	Producing oil wells			
	1965		1966	
	Approximate number of producing oil wells, Dec. 31	Average production per well per day (barrels) [1]	Approximate number of producing oil wells, Dec. 31	Average production per well per day (barrels) [1]
Alabama	518	42.6	524	42.2
Alaska	57	539.6	72	609.9
Arizona	10	29.5	6	45.2
Arkansas	6,014	11.8	6,372	10.5
California	41,031	21.2	41,348	23.0
Colorado	1,938	46.9	2,371	42.6
Illinois	29,017	6.0	28,608	5.9
Indiana	[2] 5,275	5.9	5,300	5.5
Kansas	47,354	6.1	46,016	6.1
Kentucky	15,600	3.4	14,800	3.3
Louisiana:				
Gulf Coast	15,738	96.0	16,804	104.4
Northern	14,441	10.5	14,259	10.4
Total	30,179	54.7	31,063	60.3
Michigan	4,036	9.9	4,141	9.6
Mississippi	2,513	60.4	2,549	59.8
Montana	3,799	25.2	3,507	26.5
Nebraska	1,611	28.4	1,511	24.3
New Mexico:				
Southeastern	16,061	18.6	14,981	19.9
Northwestern	1,939	16.4	1,523	18.0
Total	18,000	18.4	16,504	19.7
New York	[2] 12,304	0.4	[2] 11,832	0.4
North Dakota	1,983	37.4	2,017	37.2
Ohio	13,947	2.6	14,192	2.1
Oklahoma	80,947	6.9	80,583	7.6
Pennsylvania	52,731	0.3	[2] 50,645	0.2
South Dakota	28	23.1	29	23.0
Texas: [3]				
Gulf Coast	19,489	26.3	19,255	27.8
East Texas Field	18,489	5.9	16,843	7.0
West Texas	66,773	18.9	66,910	20.2
Other districts	93,173	9.1	93,300	9.5
Total	197,924	13.8	196,308	14.7
Utah	841	82.5	867	77.4
West Virginia	13,225	0.7	13,467	0.8
Wyoming	8,093	47.0	8,434	44.6
Other States:				
Florida	38	140.7	42	123.2
Missouri	142	1.7	150	1.8
Nevada	[2] 9	81.8	10	88.5
Tennessee	33	0.8	32	0.6
Virginia	6	1.6	2	0.7
Total	[2] 228	24.5	236	26.1
Total United States	589,203	13.3	583,302	14.2

[1] Based on the average number of wells during the year.
[2] Compiled by Bureau of Mines, all other number of producing oil wells furnished by State agencies.
[3] Division of the Texas Railroad Commission.

Table 12.—Daily average total demand for crude petroleum in the United States, by State of origin and months

(Thousand barrels)

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Alabama	25.3	12.4	28.9	26.0	16.8	8.3	21.8	21.7	24.7	31.8	24.3	25.5	22.4
Alaska	33.6	27.8	36.3	28.8	24.1	32.8	32.0	32.4	32.6	23.6	31.7	27.4	30.3
Arkansas	72.8	76.9	64.3	75.9	72.3	73.6	74.3	73.4	71.7	67.1	67.1	71.4	71.7
California	850.2	817.4	795.1	834.6	847.7	833.9	941.5	838.1	889.3	916.8	971.7	860.5	866.6
Colorado	89.7	110.4	87.3	84.9	107.3	84.6	91.2	105.3	84.2	84.3	82.3	91.7	91.9
Florida	3.5	3.0	3.9	2.7	2.9	0.3	7.6	3.0	0.1	4.3	5.0	3.9	3.3
Illinois	194.7	175.0	158.0	137.9	170.1	185.8	182.0	181.4	184.2	170.3	174.4	176.0	174.2
Indiana	31.6	27.8	30.0	31.9	36.9	30.3	34.8	30.4	31.7	28.1	32.7	32.8	31.6
Kansas	292.8	275.2	305.7	286.8	285.2	279.1	304.8	293.9	297.8	247.5	313.0	298.9	290.1
Kentucky	58.4	52.7	47.2	57.2	53.7	50.8	47.7	58.6	52.8	53.4	59.2	55.4	53.9
Louisiana	1,591.7	1,620.5	1,600.3	1,561.5	1,560.3	1,648.7	1,634.1	1,620.4	1,343.5	1,658.2	1,806.0	1,824.7	1,622.9
Michigan	40.3	42.5	44.6	39.0	39.6	36.9	41.7	42.7	39.7	41.4	39.9	44.3	41.1
Mississippi	146.8	161.7	172.4	128.9	158.4	145.7	149.8	169.8	141.9	159.1	163.6	154.4	154.4
Montana	79.2	80.7	94.5	66.6	82.9	96.2	87.8	97.0	98.5	95.5	97.3	94.5	89.3
Nebraska	53.8	44.1	51.4	65.2	38.8	55.9	43.5	45.9	46.3	42.6	45.0	34.8	47.2
New Mexico	313.5	335.4	315.2	330.2	301.6	343.8	315.9	328.5	313.4	343.4	330.4	312.9	323.5
New York	4.3	4.5	4.7	4.5	4.3	4.3	4.6	3.5	5.5	4.3	4.6	4.5	4.5
North Dakota	79.7	75.8	78.7	74.4	71.8	68.8	82.7	83.1	45.6	43.8	81.0	74.6	71.7
Ohio	37.8	39.1	35.3	36.2	33.2	35.6	32.8	37.3	37.1	34.9	37.4	30.4	35.6
Oklahoma	526.5	557.0	604.3	543.9	541.6	527.6	545.1	589.2	593.5	569.0	545.9	599.2	562.1
Pennsylvania	14.1	13.3	15.6	13.6	11.9	15.0	14.3	13.5	16.1	15.5	11.6	18.2	14.4
Texas	2,806.1	2,784.1	2,578.2	2,600.1	2,654.6	2,761.5	2,808.9	2,773.7	2,794.4	2,787.9	2,740.2	2,958.1	2,754.1
Utah	70.3	72.3	70.4	80.8	64.8	76.1	60.5	73.6	61.3	70.3	69.7	65.9	69.6
West Virginia	11.5	12.4	13.0	9.5	9.7	11.5	10.7	9.3	9.3	9.6	9.5	10.9	10.5
Wyoming	393.4	393.8	419.6	400.1	382.9	385.2	402.3	412.2	397.8	347.8	351.8	376.7	388.6
Other States	1.0	1.6	1.6	1.5	1.6	1.6	1.5	1.2	1.4	2.6	2.4	2.0	[1]1.7
Total domestic crude	7,822.6	7,817.4	7,656.5	7,522.7	7,575.0	7,793.9	7,973.9	7,939.1	7,614.4	7,853.1	8,097.7	8,249.6	7,827.2
Foreign crude	1,151.0	1,153.8	1,242.4	1,248.7	1,248.2	1,334.0	1,973.9	1,308.3	1,417.6	1,260.4	1,128.2	1,036.7	1,242.2
Grand total 1965	8,973.6	8,971.2	8,898.9	8,771.4	8,823.2	9,127.9	9,347.8	9,247.4	9,032.0	9,113.5	9,225.9	9,286.3	9,069.4
Pennsylvania grade (included above)	34.7	35.2	36.7	31.7	31.9	35.4	32.6	32.8	33.2	33.4	31.0	38.2	33.9

1966:													
Alabama	16.4	14.8	21.4	37.6	16.2	26.8	15.7	23.7	28.6	20.9	20.8	20.2	21.9
Alaska	37.8	32.2	30.0	32.4	35.5	38.0	43.6	36.0	41.7	45.8	44.9	58.3	39.8
Arkansas	60.4	67.5	65.0	70.4	67.2	66.4	66.0	62.3	61.7	63.2	57.0	70.4	64.8
California	887.2	919.6	855.5	955.0	962.0	954.5	1,011.4	938.3	963.6	945.0	974.0	929.9	941.3
Colorado	88.4	96.6	91.0	89.4	82.7	92.1	91.3	89.2	90.1	98.4	92.1	91.0	91.0
Florida	6.5	12.8	0.2	6.4	6.0	3.8	9.0	6.2	0.1	6.0	6.2	0.3	5.2
Illinois	173.1	169.8	181.7	142.0	158.1	166.5	139.5	185.4	182.6	179.7	173.0	176.4	169.0
Indiana	26.9	29.1	28.6	27.0	30.8	33.4	33.5	20.9	25.7	31.0	30.0	29.5	28.9
Kansas	291.3	272.1	281.8	271.7	277.6	285.4	308.0	268.9	296.1	296.9	293.5	286.9	286.0
Kentucky	58.3	45.0	58.5	32.9	52.3	46.6	42.0	53.7	50.6	55.9	32.9	49.5	48.3
Louisiana	1,819.3	1,848.3	1,772.1	1,773.3	1,863.4	1,865.2	1,835.5	1,840.2	1,860.0	1,813.9	1,770.6	2,050.0	1,842.9
Michigan	35.0	39.0	39.5	40.4	32.7	41.4	40.2	41.0	41.3	38.5	41.1	38.2	39.0
Mississippi	160.3	151.0	156.3	133.5	158.6	133.4	152.1	159.9	144.1	149.8	154.5	149.8	150.4
Montana	97.1	98.0	88.2	82.0	101.6	108.0	99.1	103.2	97.3	91.1	97.2	101.1	97.0
Nebraska	54.0	34.1	37.6	48.3	40.8	39.8	33.4	34.7	45.2	23.1	34.7	38.2	38.7
New Mexico	358.5	342.6	343.5	325.1	337.1	336.2	333.8	339.6	296.4	371.1	319.3	375.0	340.0
New York	4.0	4.3	4.5	4.8	5.0	5.2	4.6	5.1	5.0	4.9	4.9	4.7	4.8
North Dakota	86.6	76.3	74.8	72.7	70.7	79.3	73.0	73.9	69.4	80.5	74.1	74.0	75.4
Ohio	33.0	28.9	30.2	30.7	30.1	31.4	23.7	29.3	29.6	26.4	26.8	29.7	29.1
Oklahoma	588.2	615.3	580.1	581.5	592.6	601.4	625.6	651.8	634.8	599.0	602.2	631.2	608.6
Pennsylvania	14.5	10.0	12.4	12.8	8.9	15.5	9.0	7.7	13.5	13.3	8.2	12.5	11.5
Texas	2,824.0	2,815.9	2,797.9	2,780.2	2,792.6	2,868.2	2,942.7	2,945.0	3,027.0	2,897.2	2,915.1	2,854.2	2,871.8
Utah	68.4	55.0	62.7	65.6	69.8	62.2	71.4	63.1	65.0	75.0	73.4	75.2	67.3
West Virginia	10.6	10.3	9.9	9.5	9.9	5.3	7.9	11.4	7.6	8.3	10.1	9.7	9.2
Wyoming	331.7	361.1	367.7	312.2	337.2	382.8	395.8	387.3	394.6	388.0	337.3	350.2	362.2
Other States	1.7	1.7	2.1	2.6	2.7	1.8	2.3	2.0	2.4	2.1	2.2	2.2	[2] 2.2
Total domestic crude	8,133.2	8,151.3	7,993.2	7,940.0	8,142.1	8,290.6	8,410.1	8,379.8	8,474.0	8,325.0	8,196.1	8,508.3	8,246.3
Foreign crude	1,266.9	1,215.5	1,234.9	1,148.5	1,239.2	1,255.4	1,289.7	1,258.9	1,218.8	1,227.7	1,191.8	1,141.1	1,224.3
Grand total 1966	9,400.1	9,366.8	9,228.1	9,088.5	9,381.3	9,546.0	9,699.8	9.638.7	9,692.8	9,552.7	9,387.9	9,649.4	9,470.6
Pennsylvania grade (included above)	33.9	28.4	31.3	32.0	28.3	30.9	25.9	31.2	33.6	31.8	27.9	33.2	30.7

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[1] Arizona, 0.3; Missouri, 0.2; Nevada, 0.6; South Dakota, 0.6; Tennessee and Virginia less than 0.05.

[2] Arizona, 0.4; Missouri, 0.3; Nevada, 0.9; South Dakota, 0.7; Tennessee and Virginia less than 0.05.

Table 13.—Total demand for crude petroleum in the United States, by States of origin and months

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Alabama	783	348	896	780	520	250	677	674	742	987	730	789	8,176
Alaska	1,041	778	1,126	864	747	983	991	1,003	978	733	952	850	11,046
Arkansas	2,256	2,155	1,994	2,276	2,241	2,207	2,302	2,276	2,151	2,079	2,014	2,214	26,165
California	26,355	22,888	24,648	25,039	26,278	25,018	29,187	25,982	26,678	28,421	29,152	26,674	316,320
Colorado	2,781	3,090	2,707	2,547	3,327	2,539	2,828	3,265	2,526	2,614	2,468	2,842	33,534
Florida	110	84	122	80	91	10	237	92	4	134	151	121	1,236
Illinois	6,036	4,901	4,899	4,136	5,272	5,573	5,642	5,622	5,525	5,279	5,232	5,455	63,572
Indiana	981	777	930	957	1,143	909	1,075	941	951	871	982	1,017	11,534
Kansas	9,078	7,706	9,477	8,604	8,840	8,372	9,448	9,110	8,934	7,672	9,391	9,265	105,897
Kentucky	1,809	1,476	1,464	1,715	1,664	1,523	1,480	1,817	1,583	1,654	1,775	1,716	19,676
Louisiana	49,342	45,375	49,605	46,845	48,371	49,462	50,658	50,232	40,306	51,403	54,179	56,567	592,345
Michigan	1,248	1,190	1,384	1,171	1,228	1,108	1,292	1,325	1,192	1,282	1,196	1,374	14,990
Mississippi	4,552	4,528	5,344	3,867	4,909	4,372	4,644	5,263	4,253	4,931	4,909	4,786	56,358
Montana	2,454	2,260	2,930	1,998	2,572	2,885	2,722	3,006	2,956	2,962	2,919	2,930	32,594
Nebraska	1,669	1,234	1,593	1,956	1,203	1,678	1,350	1,423	1,389	1,321	1,350	1,078	17,244
New Mexico	9,717	9,392	9,772	9,906	9,349	10,313	9,792	10,184	9,403	10,644	9,912	9,699	118,083
New York	133	127	145	136	133	130	144	108	166	133	138	139	1,632
North Dakota	2,472	2,121	2,441	2,233	2,226	2,063	2,563	2,577	1,369	1,358	2,429	2,313	26,165
Ohio	1,173	1,096	1,095	1,085	1,028	1,067	1,016	1,156	1,114	1,084	1,123	942	12,979
Oklahoma	16,321	15,596	18,732	16,320	16,790	15,828	16,898	18,266	17,804	17,640	16,377	18,578	205,150
Pennsylvania	437	373	485	407	368	450	443	418	482	480	349	564	5,256
Texas	86,991	77,955	79,921	78,003	82,293	82,845	87,075	85,986	83,833	86,424	82,205	91,701	1,005,232
Utah	2,178	2,023	2,182	2,423	2,010	2,283	1,877	2,283	1,840	2,178	2,091	2,043	25,411
West Virginia	355	346	403	285	301	346	333	287	278	299	286	340	3,859
Wyoming	12,196	11,025	13,008	12,004	11,871	11,555	12,472	12,778	11,933	10,782	10,554	11,679	141,857
Other States	32	44	49	45	49	47	46	38	43	81	72	61	[1] 607
Total domestic crude	242,500	218,888	237,352	225,682	234,824	233,816	247,192	246,112	228,433	243,446	242,936	255,737	2,856,918
Foreign crude	35,682	32,306	38,514	37,460	38,694	40,021	42,590	40,558	42,529	39,071	33,842	32,137	453,404
Grand total	278,182	251,194	275,866	263,142	273,518	273,837	289,782	286,670	270,962	282,517	276,778	287,874	3,310,322
Daily average:													
Domestic crude	7,823	7,817	7,657	7,523	7,575	7,794	7,974	7,939	7,614	7,853	8,098	8,250	7,827
Domestic and foreign crude	8,974	8,971	8,899	8,771	8,823	9,128	9,348	9,247	9,032	9,114	9,226	9,286	9,069
Pennsylvania grade (included above)	1,076	986	1,138	951	988	1,061	1,011	1,017	997	1,035	930	1,185	12,375

1966:													
Alabama	509	413	663	1,128	501	803	486	736	858	649	623	627	7,996
Alaska	1,172	901	931	973	1,100	1,141	1,351	1,116	1,251	1,419	1,347	1,807	14,509
Arkansas	1,873	1,890	2,015	2,114	2,083	1,993	2,047	1,981	1,850	1,960	1,709	2,181	23,646
California	27,503	25,749	26,519	28,649	29,821	28,636	31,353	29,088	28,908	29,294	29,221	28,827	343,568
Colorado	2,740	2,704	2,821	2,684	2,563	2,764	2,830	2,766	2,702	3,050	2,763	2,821	33,208
Florida	201	359	7	192	186	113	279	192	4	185	186	8	1,912
Illinois	5,367	4,756	5,631	4,262	4,900	4,994	4,323	5,747	5,479	5,571	5,190	5,467	61,687
Indiana	835	816	887	809	955	1,003	1,038	648	771	960	899	914	10,535
Kansas	9,029	7,619	8,737	8,153	8,606	8,562	9,548	8,336	8,883	9,204	8,806	8,893	104,376
Kentucky	1,807	1,261	1,814	988	1,622	1,398	1,302	1,664	1,519	1,734	986	1,534	17,629
Louisiana	56,399	51,752	54,934	53,199	57,766	55,954	56,902	57,047	55,800	56,230	53,117	63,549	672,649
Michigan	1,086	1,091	1,226	1,212	1,013	1,243	1,245	1,270	1,238	1,192	1,234	1,186	14,236
Mississippi	4,968	4,227	4,846	4,005	4,916	4,003	4,715	4,957	4,322	4,643	4,640	4,644	54,886
Montana	3,011	2,745	2,733	2,459	3,153	3,240	3,071	3,199	2,920	2,825	2,916	3,135	35,407
Nebraska	1,673	954	1,166	1,448	1,264	1,194	1,034	1,075	1,356	715	1,040	1,185	14,104
New Mexico	11,112	9,593	10,647	9,753	10,450	10,086	10,349	10,527	8,892	11,505	9,578	11,626	124,118
New York	125	121	140	143	155	155	144	158	150	151	146	147	1,735
North Dakota	2,686	2,136	2,319	2,180	2,191	2,379	2,262	2,290	2,082	2,496	2,222	2,293	27,536
Ohio	1,022	808	936	920	934	941	736	910	888	819	805	920	10,639
Oklahoma	18,233	17,229	17,983	17,447	18,370	18,042	19,394	20,207	19,044	18,569	18,065	19,567	222,150
Pennsylvania	450	279	385	383	276	466	280	238	406	413	246	387	4,209
Texas	87,543	78,845	86,735	83,406	86,572	86,047	91,223	91,295	90,808	89,815	87,452	88,482	1,048,223
Utah	2,121	1,539	1,945	1,967	2,164	1,865	2,214	1,957	1,951	2,324	2,202	2,330	24,579
West Virginia	330	289	306	284	307	159	245	353	229	256	304	302	3,364
Wyoming	10,282	10,111	11,398	9,365	10,452	11,485	12,270	12,005	11,838	12,029	10,119	10,856	132,210
Other States	52	49	65	78	85	53	72	62	71	66	66	70	[2] 789
Total domestic crude	252,129	228,236	247,789	238,201	252,405	248,719	260,713	259,774	254,220	258,074	245,882	263,758	3,009,900
Foreign crude	39,273	34,035	38,281	34,454	38,416	37,661	39,981	39,026	36,565	38,059	35,756	35,374	446,881
Grand total	291,402	262,271	286,070	272,655	290,821	286,380	300,694	298,800	290,785	296,133	281,638	299,132	3,456,781
Daily average:													
Domestic crude	8,133	8,151	7,993	7,940	8,142	8,291	8,410	8,380	8,474	8,325	8,196	8,508	8,246
Domestic and foreign crude	9,400	9,367	9,228	9,089	9,381	9,546	9,700	9,639	9,693	9,553	9,388	9,649	9,471
Pennsylvania grade (included above)	1,051	794	970	961	876	927	804	967	1,009	985	838	1,030	11,212

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[1] Arizona, 95; Missouri, 73; Nevada, 205; South Dakota, 219; Tennessee, 11 and Virginia, 4.

[2] Arizona, 134; Missouri, 97; Nevada, 311; South Dakota, 239; Tennessee, 7 and Virginia, 1.

Table 14.—Receipts of domestic and foreign crude petroleum at refineries in the United States

(Million barrels)

Method of transportation	1962	1963	1964	1965	1966 p
By water:					
Intrastate	140.9	129.8	125.9	147.3	152.0
Interstate	277.6	307.1	285.9	296.6	347.7
Foreign	330.2	322.2	337.1	344.4	320.7
Total	748.7	759.1	748.9	788.3	820.4
By pipeline:					
Intrastate	1,333.4	1,377.2	1,426.0	1,407.0	1,465.8
Interstate	865.8	900.8	929.4	955.8	996.2
Foreign	79.7	90.1	101.7	107.4	126.0
Total	2,278.9	2,368.1	2,457.1	2,470.2	2,588.0
By tank cars and trucks:					
Intrastate	36.9	36.2	34.4	34.8	38.1
Interstate	6.2	4.5	4.3	3.5	4.5
Foreign	0.1	0.1	-----	-----	-----
Total	43.2	40.8	38.7	38.3	42.6
Grand total	3,070.8	3,168.0	3,244.7	3,296.8	3,451.0

p Preliminary.

Table 15.—Refinery receipts of domestic crude oil by States and districts in 1966

(Thousand barrels)

Receiving State and district	Total domestic receipts	Intrastate receipts	Interstate receipts from—																		
			Ala. and Miss.	Ark.	Calif., Nev. and Alaska	Colo.	N.Y. and Fla.	Ill.	Ind. and Mich.	Kans.	Ohio and Ky.	La.	Mont.	Nebr., N. Dak., and S. Dak.	New Mex.	Okla.	Texas	Utah	W. Va.	Wyo.	Total receipts
District I:																					
Delaware, Maryland	2,629	---	---	---	---	---	957	---	---	---	---	1,672	---	---	---	---	---	---	---	---	2,629
Florida, Georgia, Virginia	1,475	---	1,475	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,475
New Jersey	53,576	---	13,870	---	---	---	949	---	---	---	---	24,680	---	---	---	---	14,077	---	---	---	53,576
New York	9,397	---	---	---	---	---	---	2,870	---	---	65	---	---	---	---	6,320	142	---	---	---	9,397
Pennsylvania:																					
East	114,822	---	5,055	---	---	---	---	---	---	---	---	55,128	---	---	---	---	54,639	---	---	---	114,822
West	16,464	5,082	---	---	---	---	1,728	---	---	---	2,514	---	4,268	56	---	699	---	---	2,117	---	11,382
West Virginia	2,264	1,356	---	---	---	---	---	---	---	---	908	---	---	---	---	---	---	---	---	---	908
Total	200,627	6,438	20,400	---	---	---	3,634	2,870	---	---	3,487	81,480	4,268	56	---	7,019	68,858	---	2,117	---	194,189
District II:																					
Illinois	240,492	27,024	---	---	---	1,192	---	---	743	7,310	---	3,358	215	338	34,733	36,864	118,882	722	---	9,111	213,468
Indiana	161,854	920	---	---	---	1,644	---	7,827	10	16,658	13	---	14,506	3,979	12,833	28,593	43,394	---	---	31,477	160,934
Kansas	123,011	77,484	---	---	---	3,391	---	---	---	---	---	---	554	1,456	6,210	18,063	15,853	---	---	---	45,527
Kentucky, Tennessee	47,648	13,679	2,176	---	---	---	[1] 12	7,135	957	---	[2] 12	23,617	---	---	---	---	---	---	---	60	33,969
Michigan	46,288	14,139	---	---	---	---	---	3,300	---	---	---	---	---	---	---	---	17,329	---	---	11,520	32,149
Minnesota, Wisconsin	10,106	---	---	---	---	---	---	---	---	---	---	---	---	9,760	---	---	---	---	---	346	10,106
Missouri, Nebraska	25,659	42	---	---	---	161	---	---	---	91	---	---	---	216	7,132	4,229	7,665	---	---	6,123	25,617
North Dakota	17,483	17,248	---	---	---	---	---	---	---	---	---	---	235	---	---	---	---	---	---	---	235
Ohio:																					
East	28,482	7,092	---	---	---	2,294	---	16,053	---	---	---	1,321	48	---	---	---	---	---	---	2,433	22,149
West	120,742		3,574	---	---	6,108	---	11,242	394	564	---	33,161	122	2,895	1,920	8,020	47,954	---	---	4,029	119,983
Oklahoma	149,588	109,850	---	---	---	792	---	---	---	7,611	---	1,466	---	---	2,226	---	25,987	1,656	---	---	39,738
Total	971,353	267,478	5,750	---	---	15,582	12	45,557	2,104	32,234	25	62,923	15,680	18,644	65,054	95,769	277,064	2,378	---	65,099	703,875
District III:																					
Alabama	4,150	675	3,164	---	---	---	---	---	---	---	---	311	---	---	---	---	---	---	---	---	3,475
Arkansas	28,655	24,943	---	---	---	---	---	---	---	---	---	2,575	---	---	---	---	1,137	---	---	---	3,712
Louisiana	315,553	258,068	19,872	130	---	---	---	---	---	---	---	---	---	---	---	25	37,458	---	---	---	57,485
Mississippi	55,676	10,555	---	---	---	---	---	---	---	---	---	45,121	---	---	---	---	---	---	---	---	45,121
New Mexico	12,286	12,274	---	---	[3] 6	---	---	---	---	---	---	---	---	---	---	---	6	---	---	---	12
Texas	923,099	669,674	724	---	---	---	---	---	---	2	---	209,915	---	---	40,165	472	---	2,147	---	---	253,425
Total	1,339,419	976,189	23,760	130	6	---	---	---	---	2	---	257,922	---	---	40,165	497	38,601	2,147	---	---	363,230

Table 15—Refinery receipts of domestic crude oil by States and districts in 1966—Continued

(Thousand barrels)

Receiving State and district	Total domestic receipts	Intrastate receipts	Interstate receipts from—																		
			Ala. and Miss.	Ark.	Calif., Nev. and Alaska	Colo.	N.Y. and Fla.	Ill.	Ind. and Mich.	Kans.	Ohio and Ky.	La.	Mont.	Nebr., N. Dak., and S. Dak.	New Mex.	Okla.	Texas	Utah	W. Va.	Wyo.	Total receipts
District IV:																					
Colorado	13,231	1,372	-----	----	-----	-----	----	-----	----	-----	----	------	377	-----	------	------	------	26	----	11,456	11,859
Montana	29,010	12,286	-----	----	-----	-----	----	-----	----	-----	----	------	-----	-----	------	------	------	-----	----	16,724	16,724
Utah	34,800	8,619	-----	----	115	17,963	----	-----	----	-----	----	------	-----	-----	112	------	------	-----	----	7,991	26,181
Wyoming	41,755	40,195	-----	----	-----	1,445	----	-----	----	-----	----	------	70	45	------	------	------	-----	----	------	1,560
Total	118,796	62,472	-----	----	115	19,408	----	-----	----	-----	----	------	447	45	112	------	------	26	----	36,171	56,324
District V:																					
California	363,122	336,805	-----	----	[4] 7,798	-----	----	-----	----	-----	----	------	-----	-----	6,268	------	------	12,251	----	------	26,317
Other States [5]	11,051	6,532	-----	----	4,519	-----	----	-----	----	-----	----	------	-----	-----	------	------	------	-----	----	------	4,519
Total	374,173	343,337	-----	----	12,317	-----	----	-----	----	-----	----	------	-----	-----	6,268	------	------	12,251	----	------	30,836
Total United States	3,004,368	1,655,914	49,910	130	12,438	34,990	3,646	48,427	2,104	32,236	3,512	402,325	20,395	18,745	111,599	103,285	384,523	16,802	2,117	101,270	1,348,45
Daily average	8,231	4,537	137	----	34	96	9	133	6	88	10	1,102	56	51	306	283	1,053	46	6	278	3,694 4

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[1] From Virginia.
[2] From Tennessee.
[3] From Arizona.
[4] Includes 127,000 barrels from Arizona.
[5] Alaska, Hawaii, Oregon, and Washington.

Table 16.—Crude runs to stills and refinery receipts of crude oil by origin of the crude and method of transportation in 1966

(Thousand barrels)

State and district	Crude runs to stills	Refinery fuel use and losses	Refinery receipts of domestic crude— By State of origin of domestic crude	Change in refinery stocks	By receiving State and method of transportation: Intrastate: Pipelines	Intrastate: Tank cars and trucks	Intrastate: Tankers and barges	Interstate: Pipelines	Interstate: Tank cars and trucks	Interstate: Tankers and barges	Refinery receipts of foreign crude: Pipelines	Refinery receipts of foreign crude: Tankers and barges
District I:												
Delaware, Maryland	42,495	14	-----	+391	-----	-----	-----	-----	-----	2,629	-----	40,271
Florida, Georgia, Virginia	15,348	−1	1,918	−400	-----	-----	-----	-----	491	984	-----	13,472
New Jersey	167,501	-----	-----	−417	-----	-----	-----	-----	-----	53,576	-----	113,508
New York	23,913	-----	1,728	−2	-----	-----	-----	9,397	-----	-----	14,514	-----
Pennsylvania: East	191,649	131	-----	+776	-----	-----	-----	-----	-----	114,822	-----	77,734
West	16,335	−1	5,082	+130	5,040	42	-----	9,982	520	880	-----	-----
West Virginia	2,240	-----	3,473	+24	1,301	55	-----	574	334	-----	-----	-----
Total	[1] 459,481	143	12,201	+502	6,341	97	-----	19,953	1,845	172,891	14,514	244,985
District II:												
Illinois	240,298	−2	75,451	+196	26,939	85	-----	213,468	-----	-----	-----	-----
Indiana	161,810	5	2,620	+39	340	580	-----	160,913	21	-----	-----	-----
Kansas	123,050	39	109,720	−78	75,390	2,094	-----	45,463	64	-----	-----	-----
Kentucky, Tennessee	47,215	-----	13,691	+433	4,937	219	8,523	-----	24	33,945	-----	-----
Michigan	52,949	84	14,543	−59	12,696	1,443	-----	32,149	-----	-----	6,686	-----
Minnesota, Wisconsin	41,681	-----	-----	+133	-----	-----	-----	10,106	-----	-----	31,708	-----
Missouri, Nebraska	25,760	-----	9,015	−101		42	-----	25,617	-----	-----	-----	-----
North Dakota	17,527	−13	[2] 27,020	−31	16,830	418	-----	-----	235	-----	-----	-----
Ohio: East	28,513	−2	10,592	−29	5,980	353	-----	22,149	-----	-----	-----	-----
West	129,615	9		+423	735	24	-----	119,983	-----	-----	9,305	-----
Oklahoma	149,817	3	213,135	−232	105,737	4,113	-----	39,738	-----	-----	-----	-----
Total	1,018,235	123	475,787	+694	249,584	9,371	8,523	669,586	344	33,945	47,699	-----
District III:												
Alabama	4,023	−3	7,307	+130	-----	-----	675	-----	164	3,311	-----	-----
Arkansas	28,528	2	25,073	+125	23,578	1,365	-----	3,264	448	-----	-----	-----
Louisiana	315,766	−142	660,393	+378	183,181	3,431	71,456	54,604	143	2,738	-----	449
Mississippi	55,669	---	53,833	+7	8,603	1,952	-----	45,121	-----	-----	-----	-----
New Mexico	12,267	10	123,873	+9	11,057	1,217	-----	-----	12	-----	-----	-----
Texas	921,619	61	1,054,197	+1,419	624,089	8,552	37,033	130,490	49	122,886	-----	-----
Total	1,337,872	−72	1,924,676	+2,068	850,508	16,517	109,164	233,479	816	128,935	-----	449

Table 16.—Crude runs to stills and refinery receipts of crude oil by origin of the crude and method of transportation in 1966—Continued

(Thousand barrels)

State and district	Crude runs to stills	Refinery fuel use and losses	Refinery receipts of domestic crude—								Refinery receipts of foreign crude	
			By State of origin of domestic crude	Change in refinery stocks	By receiving State and method of transportation							
					Intrastate			Interstate				
					Pipelines	Tank cars and trucks	Tankers and barges	Pipelines	Tank cars and trucks	Tankers and barges	Pipelines	Tankers and barges
District IV:												
Colorado	13,134	16	36,362	+81	14	1,358	-----	11,756	103	-----	-----	-----
Montana	33,671	7	32,681	+16	10,623	1,663	-----	16,724	-----	-----	4,684	-----
Utah	34,792	41	25,421	−33	7,201	1,418	-----	24,938	1,243	-----	-----	-----
Wyoming	41,903	23	141,465	+19	39,024	1,171	-----	1,094	466	-----	190	-----
Total	123,500	87	235,929	+83	56,862	5,610	-----	54,512	1,812	-----	4,874	-----
District V:												
California	420,367	54	341,324	+29	295,980	6,540	34,285	18,680	194	7,443	-----	57,328
Other States [3]	87,738	131	14,451	−42	6,532	-----	-----	-----	-----	4,519	58,868	17,908
Total	508,105	185	355,775	−13	302,512	6,540	34,285	18,680	194	11,962	58,868	75,236
Total United States	3,447,193	466	3,004,368	+3,334	1,465,807	38,135	151,972	996,210	4,511	347,733	[4] 125,955	320,670
Daily average	9,444	1	8,231	+9	4,016	104	417	2,729	12	953	345	879

[1] Includes 290,661,000 barrels in Delaware River Valley.
[2] Includes 12,000 barrels from South Dakota.
[3] Alaska, Arizona, Hawaii, Nevada, Oregon, and Washington.
[4] Excludes crude oil imported for direct fuel use by pipelines.

Table 17.—Transportation of petroleum products by pipelines between PAD districts in the United States, by months

(Thousand barrels)

Item	1966 January	February	March	April	May	June	July	August	September	October	November	December	Total	1965 total
Turned into lines:														
Gasoline:														
Motor	85,827	78,486	88,724	87,777	95,340	92,299	95,538	95,316	92,964	94,399	90,194	94,927	1,091,791	993,723
Aviation	1,067	838	1,032	904	865	1,010	1,003	935	960	863	907	771	11,155	13,117
Total	86,894	79,324	89,756	88,681	96,205	93,309	96,541	96,251	93,924	95,262	91,101	95,698	1,102,946	1,006,840
Jet fuel:														
Naphtha type	2,000	1,963	1,941	2,160	1,862	1,861	1,869	1,996	2,064	1,834	1,802	1,688	23,040	27,973
Kerosine type	5,143	4,273	5,188	4,997	5,425	5,038	4,417	3,515	5,857	5,989	6,196	6,082	62,120	52,487
Total	7,143	6,236	7,129	7,157	7,287	6,899	6,286	5,511	7,921	7,823	7,998	7,770	85,160	80,460
Kerosine	6,619	6,094	5,763	3,866	4,517	4,562	4,215	4,229	5,625	6,474	6,689	7,479	66,132	57,201
Distillate fuel oil	43,961	38,039	32,082	28,654	30,295	30,958	33,094	36,032	35,161	37,368	42,270	48,698	436,612	383,652
Natural gas liquids	17,324	14,393	13,279	12,608	12,572	13,113	13,526	14,661	14,226	15,815	17,179	19,883	178,579	152,683
Delivered from lines:														
Gasoline:														
Motor	83,919	76,853	86,500	87,797	93,897	95,470	94,959	97,561	92,383	94,765	91,294	94,451	1,089,849	995,558
Aviation	1,046	814	1,072	760	991	1,024	920	901	908	837	905	869	11,047	12,849
Total	84,965	77,667	87,572	88,557	94,888	96,494	95,879	98,462	93,291	95,602	92,199	95,320	1,100,896	1,008,407
Jet fuel:														
Naphtha type	2,022	2,024	1,947	2,187	1,896	1,960	1,856	1,921	1,728	2,105	1,757	1,747	23,150	27,801
Kerosine type	5,058	4,212	4,820	5,131	5,058	5,108	4,313	3,502	5,419	6,177	6,043	6,253	61,094	51,882
Total	7,080	6,236	6,767	7,318	6,954	7,068	6,169	5,423	7,147	8,282	7,800	8,000	84,244	79,683
Kerosine	6,553	6,480	5,825	3,968	4,152	4,023	3,931	3,792	5,287	6,025	6,333	7,812	64,181	56,436
Distillate fuel oil	48,235	41,248	35,049	28,002	29,681	28,832	30,225	34,686	33,955	36,526	42,239	50,490	439,168	382,304
Natural gas liquids	17,312	14,825	13,574	12,304	12,523	12,755	13,454	14,648	13,870	15,442	16,315	20,146	177,168	152,534
Shortage (or overage):[1]														
Gasoline:														
Motor	(60)	(131)	(116)	(117)	(96)	(33)	(68)	(14)	(72)	(76)	(198)	(215)	(1,196)	(1,037)
Aviation	17	16	15	11	14	17	17	21	16	12	19	13	188	248
Total	(43)	(115)	(101)	(106)	(82)	(16)	(51)	7	(56)	(64)	(179)	(202)	(1,008)	(789)

Table 17.—Transportation of petroleum products by pipelines between PAD districts in the United States, by months—Continued

(Thousand barrels)

Item	1966													1965 total
	January	February	March	April	May	June	July	August	September	October	November	December	Total	
Shortage (or overage):[1]—Continued														
Jet fuel:														
Naphtha type	9	1	3	6	—	3	3	(5)	(1)	(3)	3	(6)	13	56
Kerosine type	64	67	64	52	66	63	58	58	57	43	67	81	740	722
Total	73	68	67	58	66	66	61	53	56	40	70	75	753	778
Kerosine	123	163	136	145	130	134	114	118	133	164	160	69	1,589	1,539
Distillate fuel oil	(84)	(38)	(58)	(54)	(1)	(63)	(59)	32	(64)	61	(44)	(48)	(420)	(123)
Natural gas liquids	69	74	2	54	17	45	43	49	20	35	60	112	580	476
Stocks in lines and working tanks at end of month:														
Gasoline:														
Motor	33,332	35,096	37,436	37,533	39,072	35,934	36,581	34,350	35,003	34,713	33,811	34,502	34,502	31,364
Aviation	439	447	392	525	385	354	420	433	469	483	466	355	355	435
Total	33,771	35,543	37,828	38,058	39,457	36,288	37,001	34,783	35,472	35,196	34,277	34,857	34,857	31,799
Jet fuel:														
Naphtha type	803	741	732	699	665	563	573	653	990	722	764	711	711	834
Kerosine type	970	964	1,268	1,082	1,383	1,250	1,296	1,251	1,632	1,401	1,487	1,235	1,235	949
Total	1,773	1,705	2,000	1,781	2,048	1,813	1,869	1,904	2,622	2,123	2,251	1,946	1,946	1,783
Kerosine	3,099	2,550	2,352	2,105	2,340	2,745	2,915	3,234	3,439	3,724	3,920	3,518	3,518	3,156
Distillate fuel oil	20,841	17,670	14,761	15,467	16,082	18,271	21,199	22,513	23,783	24,564	24,639	22,895	22,895	25,031
Natural gas liquids	5,861	5,355	5,058	5,308	5,340	5,653	5,682	5,646	5,982	6,320	7,124	6,749	6,749	5,918

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[1] Figures in parentheses represent overage.

Table 18.—Transportation of petroleum products by pipeline between PAD districts in the United States, by months

(Thousand barrels)

Item	1966													1965 total
	January	February	March	April	May	June	July	August	September	October	November	December	Total	
From District 1 to District 2:														
Gasoline:														
Motor	2,033	2,018	2,119	2,298	2,548	2,448	2,570	2,269	2,548	2,551	2,332	2,407	28,141	26,108
Aviation	15	13	9	4	23	20	-----	12	18	9	24	7	154	136
Total	2,048	2,031	2,128	2,302	2,571	2,468	2,570	2,281	2,566	2,560	2,356	2,414	28,295	26,244
Jet fuel (kerosine type)	27	8	5	10	5	7	5	9	3	33	17	27	156	137
Kerosine	122	91	118	59	32	54	25	55	51	108	91	201	1,007	888
Distillate fuel oil	530	362	501	470	448	463	345	309	519	508	582	629	5,666	4,541
From District 2 to District 1:														
Gasoline (motor)	393	298	378	430	464	480	441	323	275	322	398	455	4,657	4,096
Distillate fuel oil	33	38	20	23	-----	-----	11	22	10	23	-----	28	208	48
Natural gas liquids	667	408	413	229	236	246	268	483	499	477	367	454	4,747	3,662
From District 2 to District 3:														
Gasoline:														
Motor	1,357	1,130	1,142	1,385	1,677	1,668	1,517	1,433	1,272	1,491	1,308	1,337	16,717	13,907
Aviation	11	-----	5	9	-----	-----	9	8	7	8	8	10	75	238
Total	1,368	1,130	1,147	1,394	1,677	1,668	1,526	1,441	1,279	1,499	1,316	1,347	16,792	14,145
Jet fuel:														
Naphtha type	159	60	53	121	85	115	59	63	90	56	90	80	1,031	1,405
Kerosine type	-----	-----	-----	-----	-----	-----	-----	-----	8	-----	-----	-----	8	8
Total	159	60	53	121	85	115	59	63	98	56	90	80	1,039	1,413
Distillate fuel oil	417	456	314	400	284	237	395	223	185	283	265	436	3,895	3,094
Natural gas liquids	12	7	11	11	5	-----	-----	-----	-----	-----	-----	5	51	68
From District 3 to District 1:														
Gasoline:														
Motor	14,946	14,546	16,289	16,265	17,564	17,855	17,119	17,437	17,098	17,004	17,189	17,535	200,847	177,395
Aviation	119	117	154	65	150	116	111	61	136	96	137	140	1,402	1,541
Total	15,065	14,663	16,443	16,330	17,714	17,971	17,230	17,498	17,234	17,100	17,326	17,675	202,249	178,936
Jet fuel:														
Naphtha type	99	133	172	101	146	96	138	139	101	136	139	94	1,494	1,432
Kerosine type	664	606	668	775	722	851	745	871	883	1,469	1,087	1,234	10,575	8,701
Total	763	739	840	876	868	947	883	1,010	984	1,605	1,226	1,328	12,069	10,133
Kerosine	2,378	2,315	2,122	1,381	1,124	1,163	1,608	1,527	1,849	2,021	2,278	3,193	22,959	20,284
Distillate fuel oil	12,624	9,577	7,289	5,502	6,691	6,583	7,146	8,884	9,504	9,391	11,309	13,725	108,225	84,415
Natural gas liquids	1,181	872	628	323	287	508	470	639	598	603	748	1,096	7,953	5,984

Table 18.—Transportation of petroleum products by pipeline between PAD districts in the United States, by months—Continued

(Thousand barrels)

Item	1966													1965 total
	January	February	March	April	May	June	July	August	September	October	November	December	Total	
From District 3 to District 2:														
Gasoline:														
Motor	2,149	2,719	3,275	3,282	3,939	3,659	2,922	2,919	3,001	2,673	2,671	3,150	36,359	37,774
Aviation	176	139	179	149	141	190	139	195	171	136	205	125	1,945	2,155
Total	2,325	2,858	3,454	3,431	4,080	3,849	3,061	3,114	3,172	2,809	2,876	3,275	38,304	39,929
Jet fuel (kerosine type)	-----	-----	-----	-----	-----	-----	-----	-----	36	-----	30	-----	66	-----
Kerosine	270	123	59	65	34	189	68	112	77	89	216	141	1,443	1,326
Distillate fuel oil	1,295	1,465	971	511	585	743	841	871	411	746	730	831	10,000	9,682
Natural gas liquids	4,845	4,000	2,445	2,852	2,431	2,532	2,664	3,057	3,228	3,626	4,135	5,366	41,181	39,468
From District 3 to District 4:														
Gasoline:														
Motor	252	237	282	283	290	345	351	364	323	299	265	269	3,560	3,359
Aviation	30	32	36	33	34	36	31	28	33	32	24	24	373	387
Total	282	269	318	316	324	381	382	392	356	331	289	293	3,933	3,746
Kerosine	243	205	245	227	252	242	184	172	265	280	265	274	2,854	2,375
Distillate fuel oil	32	29	39	42	40	39	39	44	43	45	40	39	471	427
Natural gas liquids	145	105	80	58	53	44	52	78	65	52	87	142	961	923
From District 3 to District 5:														
Gasoline (motor)	855	865	789	841	940	829	718	785	844	841	874	863	10,044	9,174
Jet fuel:														
Naphtha type	172	149	253	270	269	329	330	254	252	332	262	229	3,101	2,265
Kerosine type	56	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	118	174	352
Total	228	149	253	270	269	329	330	254	252	332	262	347	3,275	2,617
Kerosine	-----	75	70	74	79	67	94	69	77	116	119	-----	840	254
Distillate fuel oil	267	174	235	149	260	230	279	180	185	194	204	213	2,570	1,972
From District 4 to District 2:														
Gasoline (motor)	236	182	232	246	290	318	408	419	283	296	214	223	3,347	3,339
Kerosine	2	2	3	1	2	-----	-----	2	-----	2	3	1	18	23
Distillate fuel oil	106	174	131	111	106	145	126	112	123	137	164	127	1,562	1,569
From District 4 to District 5:														
Gasoline:														
Motor	612	683	741	658	795	821	782	889	805	745	879	850	9,260	8,331
Aviation	-----	-----	-----	-----	-----	15	-----	-----	-----	-----	-----	-----	15	17
Total	612	683	741	658	795	836	782	889	805	745	879	850	9,275	8,34
Jet fuel (naphtha type)	78	80	62	72	87	78	106	72	93	90	69	84	971	2,738
Distillate fuel oil	579	434	460	385	273	285	312	384	298	454	441	651	4,956	4,455 1

Table 19.—Pipeline tariff rates for crude petroleum and petroleum products, January 1

(Cents per barrel)

Origin	Destination	1966	1967
Crude oil:			
West Texas	Houston, Tex	$0.16	$0.16
Do	East Chicago, Ind	0.29–0.31	0.29–0.31
Do	Wood River, Ill	0.27–0.28	0.27–0.28
Oklahoma	Chicago, Ill	0.22	0.22
Do	Wood River, Ill	0.19	0.19
Eastern Wyoming	Chicago, Ill	0.33	0.33
Do	Wood River, Ill	0.30	0.30
Refined products:			
Houston, Tex	Atlanta, Ga	$0.249–0.287	0.249
Do	New York, N.Y	0.348	0.348
Tulsa, Okla	Minneapolis, Minn	0.52	0.52
Salt Lake City, Utah	Spokane, Wash	0.55	0.49
Philadelphia, Pa	Rochester, N.Y	0.24	0.24

Table 20.—Petroleum oils, crude and refined, shipped from gulf and west coasts to east coast ports and from the gulf coast to west coast ports, in 1966, by months

(Thousand barrels)

Item	January	February	March	April	May	June	July	August	September	October	November	December	Total
Gulf coast to east coast:													
Crude oil	13,325	10,424	12,283	12,383	12,335	12,298	13,308	11,421	13,432	13,012	13,885	17,900	156,006
Unfinished oils	568	640	1,728	831	1,260	1,439	843	1,232	2,073	1,480	2,051	1,612	15,757
Gasoline:													
Motor	15,404	12,880	14,876	15,397	15,051	13,643	13,734	16,900	13,898	15,811	12,392	14,577	174,563
Aviation	375	388	838	644	922	788	884	383	554	723	891	522	7,912
Total	15,779	13,268	15,714	16,041	15,973	14,431	14,618	17,283	14,452	16,534	13,283	15,099	182,475
Special naphthas	36	294	316	349	367	327	323	381	300	353	338	353	3,737
Kerosine	2,925	2,761	1,743	1,420	1,689	1,794	1,551	1,555	1,112	1,531	1,541	1,949	21,571
Distillate fuel oil	19,546	16,670	14,954	11,700	11,496	11,119	9,143	10,331	9,155	9,924	11,561	13,140	148,739
Residual fuel oil	2,691	2,672	1,885	2,622	2,233	2,106	2,649	3,072	2,579	2,533	2,601	3,483	31,126
Jet fuel:													
Naphtha type	496	651	524	1,046	916	975	467	1,123	2,322	1,596	1,717	1,900	13,733
Kerosine type	1,820	2,729	2,439	2,126	1,955	1,548	1,296	1,201	1,193	1,470	1,976	1,760	21,513
Total	2,316	3,380	2,963	3,172	2,871	2,523	1,763	2,324	3,515	3,066	3,693	3,660	35,246
Lubricating oil	874	583	671	1,019	790	877	763	978	761	839	995	659	9,809
Wax	33	25	24	4	14	30	14	29	10	-----	3	4	190
Asphalt and road oil	447	572	492	489	488	417	358	531	394	411	513	321	5,433
Liquefied gases	182	228	252	174	81	85	118	199	187	156	298	388	2,343
Petrochemical feedstocks	148	157	142	151	157	234	352	228	151	129	169	231	2,249
Other products	348	412	208	266	295	229	234	228	281	297	246	172	3,216
Total	59,218	52,086	53,375	50,621	50,049	47,909	46,037	49,792	48,402	50,265	51,177	58,966	617,897
West coast to east coast:													
Unfinished oils	399	309	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	708
Gasoline:													
Motor	-----	-----	-----	-----	-----	163	-----	-----	-----	24	-----	-----	187
Distillate fuel oil	142	345	-----	-----	-----	116	-----	190	168	161	-----	135	1,257
Residual fuel oil	256	-----	-----	40	39	20	-----	-----	-----	-----	-----	-----	355
Jet fuel:													
Naphtha type	-----	-----	11	-----	-----	-----	-----	-----	-----	-----	-----	-----	11
Kerosine type	12	11	-----	12	11	13	-----	13	23	-----	-----	23	118
Total	12	11	11	12	11	13	-----	13	23	-----	-----	23	129
Lubricating oil	91	47	64	98	35	102	129	62	41	100	123	17	909
Other products	-----	-----	-----	24	10	16	-----	12	11	5	18	14	110
Total	900	712	75	174	95	430	129	277	243	290	141	189	3,655

Gulf coast to west coast:													
Gasoline:													
Motor	-----	763	385	80	155	822	658	442	505	603	-----	226	4,639
Aviation	199	74	31	-----	288	228	341	122	91	54	435	138	2,001
Total	199	837	416	80	443	1,050	999	564	596	657	435	364	6,640
Special naphthas	22	-----	49	-----	22	42	-----	22	-----	14	32	20	223
Kerosine	-----	-----	-----	56	-----	-----	23	105	23	-----	120	-----	327
Distillate fuel oil	10	-----	-----	-----	97	-----	50	-----	117	-----	80	44	398
Jet fuel:													
Naphtha type	571	300	-----	204	212	409	695	85	464	750	514	251	4,455
Kerosine type	43	257	375	622	640	762	-----	256	310	598	603	944	5,410
Total	614	557	375	826	852	1,171	695	341	774	1,348	1,117	1,195	9,865
Lubricating oil	201	82	336	44	216	139	113	258	137	112	116	86	1,840
Petrochemical feedstocks	8	17	72	-----	9	49	-----	25	42	-----	-----	-----	222
Other products	-----	-----	2	11	10	38	34	-----	-----	40	73	19	227
Total	1,054	1,493	1,250	1,017	1,649	2,489	1,914	1,315	1,689	2,171	1,973	1,728	19,742

Table 21.—Barge movements via the Mississippi river of crude oil and products from PAD District III to PAD Districts I and II in 1966, by months

(Thousands of barrels)

Movements from District III to—	January	February	March	April	May	June	July	August	September	October	November	December	Total
District I:													
Gasoline:													
Motor gasoline	1,208	400	950	785	899	649	919	730	912	903	739	898	9,992
Aviation gasoline	-----	-----	22	8	24	28	33	15	32	28	18	14	222
Total	1,208	400	972	793	923	677	952	745	944	931	757	912	10,214
Special naphthas	-----	35	15	11	26	19	18	9	19	27	9	23	211
Kerosine	48	63	67	88	-----	7	9	6	8	17	150	86	549
Distillate fuel oil	92	89	79	99	106	103	101	83	112	102	55	190	1,211
Residual fuel oil	-----	31	-----	68	7	14	-----	-----	30	-----	-----	32	182
Jet fuel:													
Naphtha-type jet fuel	-----	-----	-----	-----	-----	-----	-----	-----	-----	40	-----	-----	40
Kerosine-type jet fuel	-----	-----	-----	-----	-----	-----	37	-----	54	9	-----	119	219
Total	-----	-----	-----	-----	-----	-----	37	-----	54	49	-----	119	259
Lubricating oil	158	109	160	156	116	166	160	106	193	167	147	199	1,837
Wax	-----	5	-----	20	-----	-----	-----	-----	2	1	15	7	50
Asphalt and road oil	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Liquefied gases	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Petrochemical feedstocks	26	18	20	61	28	40	20	31	10	11	14	-----	279
Other products	15	18	35	-----	-----	8	16	52	29	15	47	23	258
Total	1,547	768	1,348	1,296	1,206	1,034	1,313	1,032	1,401	1,320	1,194	1,591	15,050
District II:													
Crude oil	2,193	2,094	2,203	2,061	2,187	2,200	1,871	2,106	2,117	2,307	2,577	2,706	26,622
Unfinished oils	12	-----	9	-----	8	-----	8	4	9	9	5	9	73
Gasoline:													
Motor gasoline	2,034	1,665	2,160	2,101	2,306	2,164	2,221	2,186	2,005	2,029	1,629	2,168	24,668
Aviation gasoline	12	31	75	68	72	52	28	97	97	35	55	68	690
Total	2,046	1,696	2,235	2,169	2,378	2,216	2,249	2,283	2,102	2,064	1,684	2,236	25,358
Special naphthas	54	67	203	186	86	149	149	189	227	154	177	280	1,921
Kerosine	232	245	233	308	207	167	93	130	319	204	266	166	2,570
Distillate fuel oil	843	812	738	1,015	1,034	889	728	734	701	737	432	717	9,380
Residual fuel oil	801	777	914	918	675	647	551	614	770	813	510	1,141	9,131
Jet fuel:													
Naphtha-type jet fuel	-----	9	-----	-----	-----	9	9	-----	9	39	6	4	85
Kerosine-type jet fuel	100	190	130	94	168	133	95	134	363	223	173	153	1,956
Total	100	199	130	94	168	142	104	134	372	262	179	157	2,041

District II—Continued													
Lubricating oil	347	85	187	241	182	222	201	145	220	197	189	185	2,401
Wax	-----	-----	-----	-----	-----	4	-----	-----	-----	-----	-----	-----	4
Asphalt and road oil	213	167	253	389	220	488	281	292	285	388	244	103	3,323
Liquefied gases	137	112	196	111	112	169	112	56	168	111	111	111	1,506
Petrochemical feedstocks	117	68	86	107	102	198	173	133	101	223	105	155	1,568
Other products	63	39	44	47	74	55	53	88	65	10	50	10	598
Total	7,158	6,361	7,431	7,646	7,433	7,546	6,573	6,908	7,456	7,479	6,529	7,976	86,496

Table 22.—Tanker rates from U.S. Gulf to destinations North of Cape Hatteras

Year	Vessels under 25,000 DWT [1]					
	Clean products (cents per gallon)			Dirty products (dollars per barrel)		
	Gasoline	Kerosine	No. 2 fuel oil	30 gravity crude oil	No. 5 fuel oil	Bunker C fuel oil
1960	0.77	0.84	0.89	0.30	0.32	0.33
1961	.89	.98	1.03	.41	.43	.46
1962	.80	.88	.93	.38	.40	.43
1963	.92	1.01	1.06	.45	.47	.50
1964	.86	.95	1.00	.43	.46	.48
1965	.83	.91	.96	.50	.53	.56
1966	.93	1.03	1.08	.52	.55	.58
	Vessels over 25,000 DWT [1]					
1960	0.64	0.70	0.74	0.27	0.29	0.31
1961	.73	.81	.85	.36	.38	.40
1962	.77	.84	.89	.33	.35	.40
1963	.85	.93	.98	.37	.39	.41
1964	.76	.84	.88	.38	.40	.43
1965	.67	.74	.78	.40	.43	.45
1966	.93	1.02	1.07	.41	.43	.46

[1] Deadweight ton.

Source: Platt's Oil Price Handbook.

Table 23.—Stocks of crude petroleum, natural gas liquids, and refined products in the United States at yearend

(Thousand barrels)

	1962	1963	1964	1965	1966
Crude petroleum:					
At refineries	64,836	61,487	63,908	59,386	62,720
Pipelines and tank farm	167,390	157,544	149,415	144,740	153,930
Producers	19,785	18,330	16,734	16,163	21,741
Total	252,011	237,361	230,057	220,289	238,391
Natural gas liquids	31,385	33,747	35,679	35,867	40,423
Refined products	550,900	564,451	573,499	580,188	595,651
Grand total	834,296	835,559	839,235	836,344	874,465

Table 24.—Stocks of refined petroleum products in the United States at end of month

(Thousand barrels)

Product	January	February	March	April	May	June	July	August	September	October	November	December
1965:												
Gasoline:												
Motor	205,734	216,576	216,063	208,331	197,102	184,318	176,901	173,338	171,527	168,229	171,203	174,717
Aviation	8,191	8,467	8,848	9,022	8,509	8,245	8,186	8,452	8,743	8,379	8,044	8,341
Total	213,925	225,043	224,911	217,353	205,611	192,563	185,087	181,790	180,270	176,608	179,247	183,058
Special naphthas	5,888	5,794	5,719	5,535	5,444	5,263	6,162	5,793	5,743	5,835	5,999	6,209
Kerosine	24,029	20,744	18,127	18,693	20,995	23,448	25,304	25,993	26,899	27,290	26,252	24,080
Distillate fuel oil	130,619	105,282	84,571	82,754	99,394	116,559	138,535	158,377	171,973	181,988	177,278	155,407
Residual fuel oil	38,285	35,711	34,362	34,476	40,062	45,246	50,209	53,850	55,138	58,350	59,736	56,214
Jet fuel:												
Naphtha-type	7,528	7,992	8,467	8,659	8,451	8,551	8,673	8,111	7,151	7,559	7,508	8,338
Kerosine-type	10,172	10,679	10,757	11,351	11,578	11,958	12,327	11,709	10,765	10,691	11,082	10,361
Total	17,700	18,671	19,224	20,010	20,029	20,509	21,000	19,820	17,916	18,250	18,590	18,699
Lubricants	13,853	14,432	14,012	13,675	13,389	12,888	12,800	13,263	12,991	12,756	12,895	13,304
Wax	1,025	1,013	1,001	997	1,010	975	1,009	1,034	979	955	894	890
Coke	7,303	7,536	7,538	7,697	7,821	7,740	7,553	7,301	7,088	7,071	7,053	7,389
Asphalt	16,852	19,447	22,384	23,269	23,544	20,705	18,483	16,159	14,843	13,235	13,949	16,178
Road oil	779	1,003	1,200	1,375	1,467	1,310	1,083	830	599	566	483	584
Liquefied refinery gases [1]	3,452	3,394	3,033	3,360	4,153	4,496	4,612	4,580	4,538	4,383	4,307	3,665
Petrochemical feedstocks	2,497	2,786	2,920	3,029	3,185	3,355	3,506	3,493	3,688	3,900	4,516	4,093
Miscellaneous	1,850	1,697	1,565	1,562	1,556	1,525	1,523	1,573	1,690	1,694	1,751	1,809
Unfinished oils	84,767	81,442	84,226	88,022	89,007	91,246	90,715	87,131	86,037	89,967	90,760	88,609
Total	562,824	543,995	524,793	521,807	536,667	547,828	567,581	580,987	590,392	602,848	603,710	580,188
1966:												
Gasoline:												
Motor	194,984	203,088	205,033	198,980	195,555	178,661	176,344	169,844	172,351	177,791	180,187	186,393
Aviation	8,495	9,099	9,168	8,965	8,066	7,208	6,956	7,184	7,325	7,410	7,054	7,784
Total	203,479	212,187	214,201	207,945	203,621	185,869	183,300	177,028	179,676	185,201	187,241	194,177
Special naphthas	6,379	6,303	6,008	5,706	5,686	5,468	5,496	5,510	5,439	5,445	5,460	5,583
Kerosine	20,209	17,866	18,676	19,565	21,259	23,542	27,092	30,253	30,428	30,434	27,915	25,004
Distillate fuel oil	130,041	104,042	92,761	91,004	102,513	117,654	142,467	161,065	177,363	186,576	175,805	154,096
Residual fuel oil	53,627	47,634	46,751	46,231	49,456	51,703	56,862	59,570	61,640	63,951	63,538	61,196
Jet fuel:												
Naphtha-type	8,423	8,292	8,562	7,913	7,528	7,491	7,652	7,726	7,486	7,456	6,806	7,235
Kerosine-type	10,515	10,888	11,521	10,821	12,075	12,307	15,374	15,970	15,139	13,597	14,037	12,139
Total	18,938	19,180	20,083	18,734	19,603	19,798	23,026	23,696	22,625	21,053	20,843	19,374

Table 24.—Stocks of refined petroleum products in the United States at end of month—Continued

(Thousand barrels)

Product	January	February	March	April	May	June	July	August	September	October	November	December
1966—Continued												
Lubricants	13,818	14,095	13,631	13,089	13,101	12,546	12,507	12,599	12,371	12,241	12,983	12,682
Wax	905	907	856	846	815	814	870	857	854	858	865	861
Coke	7,752	7,732	7,919	7,849	7,813	7,759	7,910	7,781	7,528	7,418	7,294	7,297
Asphalt	19,454	22,387	24,467	26,794	26,515	23,586	20,890	16,860	15,260	13,282	14,405	17,309
Road oil	731	877	1,221	1,480	1,449	1,201	1,166	951	847	746	689	919
Liquefied refinery gases [1]	2,761	2,602	2,364	2,354	2,927	3,051	3,625	3,803	3,787	4,008	3,694	3,336
Petrochemical feedstocks	3,602	3,968	3,946	2,928	2,780	2,795	2,888	2,992	2,569	2,619	2,790	2,476
Miscellaneous	1,764	2,034	1,949	1,772	2,015	1,904	2,077	2,086	2,002	2,219	2,244	2,128
Unfinished oils	86,086	84,628	88,517	90,838	95,610	97,833	96,014	91,762	92,377	92,601	90,837	89,213
Total	569,546	546,442	543,350	537,135	555,163	555,523	586,190	596,813	614,766	628,652	616,603	595,651

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[1] Includes L.R.G. used for petrochemical feedstocks.

Table 25.—Stocks of crude petroleum in the United States by State of origin, by month in 1966

(Thousand barrels)

State of origin	Jan. 1	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31
Alabama	154	374	613	673	211	397	238	431	366	162	181	196	188
Alaska	486	307	361	402	348	394	321	190	380	360	385	546	335
Arizona	2	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Arkansas	709	710	741	777	738	751	759	740	823	905	918	1,110	887
California	21,931	22,472	22,471	24,841	24,318	23,901	23,577	21,621	22,202	22,033	22,736	22,751	23,658
Colorado	3,144	3,238	3,094	3,175	3,259	3,510	3,504	3,497	3,556	3,570	3,395	3,414	3,428
Florida	376	351	153	317	285	252	286	155	107	234	186	132	263
Illinois	6,904	6,668	6,496	6,234	7,006	7,371	7,467	8,298	7,911	7,538	7,240	7,151	6,878
Indiana	296	315	261	367	506	477	438	308	341	409	399	407	378
Kansas	6,380	5,911	6,314	6,593	7,136	7,458	7,567	6,745	7,319	7,058	6,571	6,351	5,742
Kentucky	1,077	865	1,023	877	1,389	1,331	1,444	1,649	1,535	1,471	1,213	1,636	1,514
Louisiana	25,080	24,099	23,910	25,430	26,801	25,946	25,404	25,183	25,060	24,536	25,747	30,042	26,749
Michigan	750	861	894	880	875	1,088	1,036	966	917	841	855	768	787
Mississippi	2,435	2,318	2,231	2,082	2,623	2,368	2,893	2,863	2,646	2,691	2,725	2,634	2,776
Montana	3,730	3,627	3,610	3,858	4,368	4,268	3,955	3,901	3,726	3,718	3,834	3,788	3,703
Nebraska	1,655	1,242	1,415	1,454	1,168	1,083	1,012	1,121	1,210	985	1,406	1,457	1,401
Nevada	4	7	2	1	1	1	-----	-----	1	1	1	-----	-----
New Mexico	8,663	7,914	7,910	7,794	8,268	8,322	8,345	8,302	8,073	9,293	8,372	9,384	8,699
New York	30	30	30	30	30	30	30	30	30	30	30	30	30
North Dakota	2,080	1,734	1,790	1,886	1,876	1,903	1,735	1,752	1,745	1,862	1,744	1,688	1,670
Ohio	695	634	724	813	843	857	894	1,042	1,039	1,023	1,026	1,051	955
Oklahoma	15,107	15,052	14,810	16,117	17,154	18,158	18,870	18,515	17,171	16,345	16,864	17,417	17,796
Pennsylvania	887	757	802	793	758	852	767	856	1,004	969	929	1,044	1,015
Texas	89,729	89,643	90,990	94,542	98,203	102,886	104,972	102,892	100,367	95,338	95,233	95,412	99,212
Utah	2,563	2,505	2,779	2,736	2,704	2,547	2,632	2,454	2,604	2,731	2,533	2,348	2,096
West Virginia	675	592	554	563	568	565	671	751	728	835	913	948	985
Wyoming	12,762	13,408	14,151	14,214	15,967	16,959	16,530	15,493	14,932	14,267	13,703	14,377	15,022
Total domestic crude	208,304	205,634	208,131	217,449	227,403	233,675	235,347	229,755	225,793	219,205	219,139	226,082	226,167
Foreign crude located in districts:													
I-IV	7,780	8,328	9,053	10,786	11,879	11,032	12,169	10,926	11,581	11,373	10,931	10,443	8,352
V	4,205	6,340	6,238	4,989	5,950	5,711	5,872	6,196	7,973	7,620	6,022	5,167	3,872
Total foreign crude	11,985	14,668	15,291	15,775	17,829	16,743	18,041	17,122	19,554	18,993	16,953	15,610	12,224
Total crude stocks	220,289	220,302	223,422	233,224	245,232	250,418	253,388	246,877	245,347	238,198	236,092	241,692	238,391
Pennsylvania grade (included above)	1,875	1,651	1,686	1,715	1,692	1,801	1,880	2,089	2,190	2,235	2,293	2,498	2,501

Table 26.—Stocks of crude petroleum in the United States by location, by month in 1966

(Thousand barrels)

State	Jan. 1	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31
Alabama	148	206	237	236	237	223	180	178	201	177	189	255	270
Alaska	486	307	361	402	348	394	321	190	380	360	385	546	335
Arizona	450	448	450	448	448	448	444	443	443	444	445	447	448
Arkansas	1,273	1,267	1,278	1,316	1,274	1,288	1,297	1,305	1,375	1,457	1,473	1,647	1,426
California, Nevada, Oregon, Washington	26,999	28,815	29,230	30,410	30,587	29,908	29,708	27,662	30,363	29,896	28,885	27,909	27,642
Colorado	1,355	1,353	1,295	1,418	1,577	1,555	1,635	1,549	1,667	1,706	1,381	1,800	1,488
Florida, Georgia, South Carolina, Virginia	993	1,026	516	940	1,227	967	747	790	1,138	806	1,156	891	486
Hawaii	154	809	564	476	619	518	589	918	726	825	832	723	490
Illinois	12,675	12,575	12,646	12,705	13,964	15,733	15,383	15,358	14,401	13,769	13,386	13,819	13,365
Indiana	3,389	3,354	3,217	3,555	4,228	4,298	4,232	4,086	4,268	4,158	4,308	4,640	4,322
Iowa, Missouri	6,578	6,294	6,393	7,106	6,775	6,855	7,294	7,280	6,960	6,912	7,165	6,967	7,351
Kansas	8,734	8,421	8,807	8,984	9,385	10,296	10,031	9,624	10,277	9,870	9,767	9,163	9,202
Kentucky, Tennessee	2,987	2,784	2,883	2,806	3,781	3,441	3,429	3,279	3,179	3,441	3,204	3,750	3,609
Louisiana	15,463	16,965	16,604	16,977	16,526	15,773	16,566	16,417	17,045	15,854	16,687	18,784	18,300
Maryland	167	167	270	213	253	347	271	256	467	342	209	160	243
Massachusetts, Delaware, Rhode Island	401	464	462	780	1,324	715	967	566	1,094	518	851	1,040	716
Michigan	1,704	1,671	1,771	1,890	1,922	2,092	2,172	1,915	1,890	1,932	1,847	1,780	1,658
Minnesota, Wisconsin	2,271	1,919	1,996	2,074	2,499	2,136	2,169	2,081	2,010	2,179	2,144	2,212	2,272
Mississippi	2,357	2,380	2,423	2,544	2,372	2,382	2,484	2,488	2,312	2,149	2,584	2,907	2,520
Montana	1,881	2,076	2,072	2,163	2,243	2,279	2,243	2,180	1,953	2,035	2,044	2,154	2,050
Nebraska	1,569	1,626	1,574	1,709	1,796	1,784	1,832	1,783	1,615	1,553	1,576	1,562	1,558
New Jersey	5,002	3,901	4,679	5,313	5,239	4,776	5,903	5,402	6,079	6,256	5,398	5,160	4,585
New Mexico	3,220	3,318	3,547	3,673	3,691	3,558	3,710	3,616	3,496	3,490	3,434	3,596	3,776
New York	422	419	456	549	430	446	429	316	399	453	434	455	436
North Dakota	1,538	1,375	1,382	1,346	1,165	1,388	1,234	1,184	1,180	1,270	1,337	1,291	1,371
Ohio	6,520	6,565	6,636	6,858	8,127	7,814	7,908	7,978	7,842	7,417	6,686	6,997	7,765
Oklahoma	15,750	15,002	15,150	15,047	17,283	18,093	18,826	18,417	16,813	16,372	16,383	17,427	17,521
Pennsylvania	7,695	7,900	8,457	9,623	9,030	10,421	10,148	10,322	9,504	10,029	10,456	8,844	8,889
Texas	80,555	79,404	79,925	83,607	87,389	90,077	91,264	90,137	87,408	84,134	83,184	85,701	84,991
Utah	998	1,155	1,198	1,068	1,109	1,198	1,165	1,023	1,086	1,073	990	1,087	981
West Virginia	614	522	502	563	564	534	657	670	675	749	746	747	749
Wyoming	5,941	5,814	6,441	6,425	7,820	8,681	8,150	7,464	7,101	6,572	6,526	7,231	7,576
Total	220,289	220,302	223,422	233,224	245,232	250,418	253,388	246,877	245,347	238,198	236,092	241,692	238,391

Table 27.—Stocks of crude petroleum in the United States by classification and location, by month in 1966

(Thousand barrels)

Classification and location	Jan. 1	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31
At refineries:													
Alabama	76	143	171	180	176	188	121	102	145	127	107	170	206
Alaska	101	55	87	80	91	75	77	64	93	93	77	90	44
Arkansas	212	229	247	263	278	272	281	302	311	312	349	338	337
California, Oregon, Washington	13,608	15,203	15,652	15,804	16,451	15,784	16,314	15,559	17,255	17,317	15,987	14,930	13,316
Colorado	266	273	216	323	482	387	429	334	335	412	269	422	347
Florida, Georgia, South Carolina, Virginia	812	847	367	818	1,139	839	667	637	1,032	757	970	759	412
Hawaii	154	809	564	476	619	518	589	918	726	825	832	723	490
Illinois	2,590	2,450	2,717	2,676	2,895	3,170	3,492	3,454	3,126	3,127	2,782	2,648	2,786
Indiana	1,123	1,033	869	1,074	1,103	920	1,007	917	1,124	1,090	1,225	1,438	1,162
Kansas	1,470	1,490	1,578	1,665	1,707	1,622	1,726	1,466	1,510	1,511	1,459	1,497	1,392
Kentucky, Tennessee	1,269	1,096	1,109	859	1,590	1,336	1,283	1,281	1,218	1,267	1,156	1,688	1,702
Louisiana	4,407	4,902	4,244	5,129	5,343	4,765	5,049	5,089	5,747	4,885	4,293	5,470	4,785
Maryland	167	167	270	213	253	347	271	256	467	342	209	160	243
Massachusetts, Delaware, Rhode Island	401	464	462	780	1,324	715	967	566	1,094	518	851	1,040	716
Michigan	735	802	925	927	839	929	965	804	867	872	717	707	676
Minnesota, Wisconsin	1,353	1,192	1,161	1,420	1,530	1,403	1,377	1,317	1,097	1,311	1,301	1,410	1,486
Mississippi	709	667	683	774	608	650	681	798	520	411	729	1,022	716
Missouri	364	216	281	269	372	267	273	238	241	231	270	301	267
Montana	530	604	640	705	750	753	649	622	528	595	651	585	546
Nebraska	28	28	20	34	35	34	36	36	20	23	28	21	24
New Jersey	5,002	3,901	4,679	5,313	5,239	4,776	5,903	5,402	6,079	6,256	5,398	5,160	4,585
New Mexico	198	212	206	210	193	163	174	190	150	187	189	191	207
New York	253	261	289	322	256	268	239	128	280	222	240	250	251
North Dakota	342	290	318	308	130	277	158	115	138	169	227	244	311
Ohio	1,630	1,797	1,808	1,995	2,541	2,045	2,376	2,288	2,300	2,154	2,053	1,870	2,024
Oklahoma	1,584	1,615	1,371	1,590	1,771	1,590	2,007	1,790	1,542	1,606	1,421	1,561	1,352
Pennsylvania	6,422	6,808	7,385	8,541	7,908	9,237	9,039	9,081	8,174	8,635	9,023	7,285	7,328
Texas	12,656	12,998	13,046	14,335	16,089	15,184	14,963	15,532	14,288	14,233	13,732	14,672	14,075
Utah	400	463	497	437	478	543	521	344	374	375	375	463	367
West Virginia	80	73	74	89	86	92	78	78	68	142	132	110	104
Wyoming	444	442	458	499	548	830	748	569	531	559	457	511	463
Total	59,386	61,530	62,394	68,108	72,824	69,979	72,460	70,277	71,380	70,564	67,509	67,736	62,720

Table 27.—Stocks of crude petroleum in the United States by classification and location, by month in 1966—Continued

(Thousand barrels)

Classification and location	Jan. 1	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31
Pipeline and tank—farm stocks:													
Alabama	57	44	48	38	41	15	42	58	41	34	65	64	49
Alaska	382	247	269	317	253	315	240	122	283	263	303	451	286
Arkansas	976	937	939	961	904	930	925	912	973	1,054	1,033	1,218	998
California, Arizona	12,352	12,538	12,769	13,549	13,131	13,113	12,339	11,328	12,175	11,657	11,197	12,237	12,925
Colorado	988	979	978	999	999	1,065	1,108	1,111	1,223	1,185	1,003	1,261	1,024
Florida	165	154	124	97	54	105	57	130	83	26	163	109	51
Illinois	9,682	9,700	9,499	9,629	10,664	12,158	11,501	11,494	10,882	10,268	10,207	10,784	10,172
Indiana	2,225	2,292	2,319	2,452	3,096	3,349	3,191	3,135	3,110	3,034	3,049	3,168	3,126
Iowa, Missouri	6,214	6,078	6,112	6,837	6,403	6,588	7,021	7,042	6,719	6,681	6,895	6,666	7,084
Kansas	6,771	6,470	6,789	6,894	7,247	8,248	7,856	7,695	8,318	7,916	7,865	7,223	7,376
Kentucky, Tennessee	1,658	1,628	1,714	1,887	2,131	2,045	2,086	1,938	1,901	2,114	1,988	2,002	1,842
Louisiana	9,005	9,801	10,105	9,718	9,075	8,854	9,361	9,038	9,068	8,637	10,026	10,907	10,990
Michigan	776	671	648	765	885	965	1,009	913	825	862	932	875	784
Minnesota, Wisconsin	918	727	835	654	969	733	792	764	913	868	843	802	786
Mississippi	1,316	1,343	1,389	1,444	1,424	1,397	1,468	1,348	1,424	1,423	1,521	1,561	1,489
Montana	1,023	1,114	1,088	1,114	1,149	1,173	1,246	1,183	1,088	1,109	1,062	1,234	1,166
Nebraska	1,436	1,493	1,449	1,570	1,656	1,645	1,691	1,642	1,490	1,437	1,455	1,448	1,441
New Mexico	1,885	2,016	2,243	2,396	2,439	2,346	2,424	2,303	2,210	2,200	2,142	2,302	2,423
New York	139	128	137	197	144	148	160	158	89	201	164	175	155
North Dakota	1,015	889	881	855	852	928	896	876	867	931	948	880	907
Ohio	4,815	4,693	4,753	4,788	5,511	5,694	5,457	5,615	5,467	5,188	4,558	5,052	5,666
Oklahoma	12,905	12,066	12,466	12,167	14,244	15,235	15,591	15,399	14,065	13,560	13,734	14,627	14,943
Pennsylvania	1,133	952	932	942	982	1,044	969	1,095	1,189	1,253	1,292	1,418	1,420
Texas	61,008	59,249	59,811	62,456	64,322	67,297	68,049	65,141	63,335	60,229	59,402	58,290	59,197
Utah	534	620	627	560	568	587	585	615	648	647	566	567	545
West Virginia	374	283	262	308	312	276	413	426	441	441	454	472	480
Wyoming	4,988	4,834	5,378	5,403	6,757	7,344	6,902	6,337	6,069	5,540	5,573	6,224	6,605
Total	144,740	141,946	144,564	148,997	156,212	163,597	163,379	157,818	154,896	148,758	148,440	152,017	153,930
Lease stocks	16,163	16,826	16,464	16,119	16,196	16,842	17,549	18,782	19,071	18,876	20,143	21,939	21,741
Total stocks:													
1966	220,289	220,302	223,422	233,224	245,232	250,418	253,388	246,877	245,347	238,198	236,092	241,692	238,391
1965	230,057	230,165	230,268	239,563	251,375	255,071	253,586	242,110	236,381	231,100	231,816	226,697	220,289

Table 28.—Value of crude petroleum at wells in the United States, by States

State	1965		1966	
	Total value at wells (thousands)	Average value per barrel	Total value at wells (thousands)	Average value per barrel
Alabama	$21,047	$2.61	$20,878	$2.60
Alaska	34,073	3.06	44,007	3.06
Arizona	277	2.85	370	2.80
Arkansas	68,974	2.66	63,372	2.66
California	753,099	2.38	812,834	2.35
Colorado	96,512	2.88	97,462	2.91
Illinois	186,664	2.93	184,983	3.00
Indiana	32,606	2.84	31,850	3.00
Kansas	305,820	2.92	306,027	2.95
Kentucky	55,638	2.87	51,488	2.85
Louisiana:				
GulfCoast	1,677,960	3.11	1,936,430	3.12
Northern	163,754	2.96	160,699	2.96
Total	1,841,714	3.10	2,097,129	3.11
Michigan	41,091	2.79	40,913	2.87
Mississippi	148,437	2.64	146,353	2.65
Montana	79,624	2.43	86,273	2.44
Nebraska	45,796	2.66	37,673	2.72
New Mexico:				
Southeastern	302,319	2.81	320,854	2.84
Northwestern	32,658	2.82	31,247	2.75
Total	334,977	2.81	352,101	2.84
New York	7,246	4.44	7,925	4.57
North Dakota	65,875	2.50	69,170	2.55
Ohio	37,940	2.94	32,700	3.00
Oklahoma	587,944	2.89	654,281	2.91
Pennsylvania	21,263	4.32	19,300	4.45
South Dakota	438	2.00	479	2.00
Texas: [1]				
Gulf Coast	600,806	3.20	632,368	3.22
East Texas Field	123,132	3.04	137,579	3.05
West Texas	1,317,522	2.86	1,420,820	2.88
Other districts	920,659	2.95	950,620	2.95
Total	2,962,119	2.96	3,141,387	2.97
Utah	66,045	2.61	63,760	2.64
West Virginia	13,591	3.85	14,623	3.98
Wyoming	345,785	2.50	344,243	2.56
Other States [2]	3,703	2.10	4,842	2.19
Total United States	8,158,298	2.86	8,726,423	2.88

[1] Texas Railroad Commission Divisions.
[2] Florida, Missouri, Nevada, Tennesse, and Virginia.

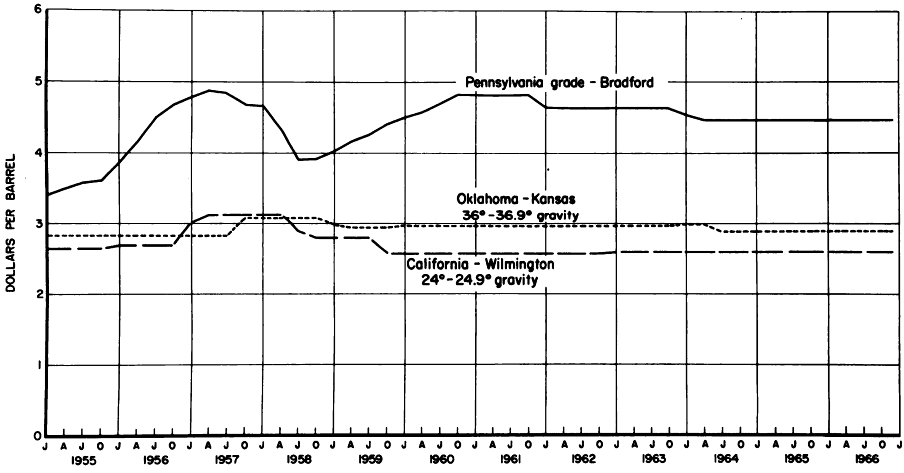

Figure 5.—Posted prices of selected grades of crude petroleum in the United States, 1955–66, by quarters.

Table 29.—Wholesale price index, crude petroleum

(1957–59=100)

Year	Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1947	61.7	52.5	52.5	57.8	60.5	60.6	60.6	61.8	61.8	62.0	64.8	67.1	78.6
1948	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	82.9
1949	82.0	82.7	82.5	82.5	82.3	82.1	82.0	81.7	81.7	81.7	81.7	81.7	81.8
1950	82.0	81.8	81.8	81.8	81.8	81.9	81.9	82.0	82.0	82.0	82.1	82.1	82.3
1951	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
1952	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
1953	88.4	82.4	84.5	84.5	84.5	84.5	91.6	91.6	91.6	91.6	91.4	91.4	91.4
1954	91.0	91.2	91.2	91.2	91.2	91.2	90.8	90.8	90.8	90.8	90.8	90.8	91.0
1955	91.1	91.0	91.0	91.0	91.0	91.0	91.0	91.1	91.1	91.1	91.1	91.2	91.3
1956	91.6	91.3	91.3	91.3	91.4	91.4	91.6	91.6	91.6	91.6	91.6	91.6	92.4
1957	101.0	95.1	101.6	101.6	101.6	101.6	101.6	101.6	101.5	101.5	101.5	101.5	101.5
1958	101.2	101.5	101.5	101.5	101.5	101.4	101.4	100.9	100.9	100.9	100.9	100.9	100.9
1959	97.8	99.1	97.9	97.9	98.0	98.0	98.0	98.0	98.0	97.2	97.2	97.2	97.2
1960	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
1961	97.5	97.2	97.2	97.2	97.5	97.5	97.5	97.5	97.5	97.5	97.8	97.8	97.8
1962	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.7	97.7	97.7
1963	97.3	97.7	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.2	97.2	97.2
1964	96.9	97.2	97.2	97.2	97.2	97.2	96.8	96.8	96.7	96.7	96.7	96.7	96.7
1965	96.8	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.9
1966	97.5	96.9	97.0	97.0	97.0	97.2	97.4	97.5	97.7	97.7	98.1	98.1	98.1

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Table 30.—Posted price per barrel of petroleum at wells in the United States in 1966 by grade, with data change

Date	Pennsylvania grade		Corning grade	Western Kentucky	Indiana-Illinois	Coldwater, Mich.	Oklahoma-Kansas	
	Bradford and Allegheny districts	In southwest Pennsylvania					34°-34.9°	36°-36.9°
January 1	4.48	3.93	2.77	3.10	3.10	2.90	2.84	2.92
March 1	4.63	4.08	----	----	----	----	----	----
September 16	----	----	----	----	----	----	2.92	3.00

Date	Panhandle, Texas (Carson, Gray, Hutchinson, and Wheeler Counties) 35°-35.9°	West Texas 30°-30.9° (sweet)	Lea County, N. Mex. 30°-30.9° (sour)	South Texas Mirando 24°-24.9°	East Texas	Gulf Coast			
						Conroe Texas	Texas 30°-30.9°	Texas 20°-20.9°	Louisiana 30°-30.9°
January 1	2.80	2.81	2.65	3.06	3.10	3.35	3.10	2.90	3.10
July 1	2.85	----	----	----	----	----	----	----	----
July 8	----	----	2.75	----	----	----	----	----	----
September 22	2.92	----	----	----	----	----	----	----	----
September 24	----	2.86	----	----	----	----	----	----	----
October 11	----	----	----	----	3.15	----	----	----	----
November 1	----	----	2.80	----	----	----	----	----	----

Date	Caddo-Pine Island, La. 36°-36.9°	Magnolia-Smackover, Limestone, Ark. 31°-31.9°	Elk Basin Wyo. (including Montana) 30°-30.9°	California			
				Coalinga 32°-32.9°	Kettleman Hills 37°-37.9°	Midway Sunset 19°-19.9°	Wilmington 24°-24.9°
January 1	2.97	2.62	2.63	2.96	3.21	2.23	2.58
February 1	----	----	2.68	----	----	----	----

Source: Platt's Oil Price Handbook.

Table 31.—Average monthly price of petroleum products in the United States

Monthly average and grade	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year
Gasoline 92 octane (cents per gallon) [1]														
At refineries in Oklahoma	1965	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.08	11.95	12.25	12.25	12.25	12.21
	1966	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25
Dealer's net (excluding tax) at 55 cities on first of month	1965	14.99	14.67	14.31	15.86	15.47	15.51	15.86	15.50	15.61	15.56	15.48	15.73	15.38
	1966	15.55	15.78	15.53	15.57	15.65	15.91	15.94	15.91	16.11	16.02	15.93	16.02	15.83
At service station (including all taxes)	1965	30.61	30.23	29.56	31.62	31.20	31.26	31.73	31.46	31.58	31.47	31.39	31.79	31.15
	1966	31.53	31.80	31.45	31.64	31.73	32.25	32.27	32.33	32.61	32.44	32.38	32.50	32.08
Kerosine: (cents per gallon)														
No. 1 range at Chicago district	1965	10.00	10.03	9.88	9.83	9.75	9.75	9.75	9.83	10.05	10.24	10.38	10.50	10.00
	1966	10.50	10.58	10.36	10.13	10.07	10.00	10.00	10.00	10.00	10.00	10.00	10.09	10.14
No. 1 fuel oil at Oklahoma	1965	10.63	10.63	10.34	10.13	10.13	10.13	10.25	10.25	10.22	10.38	10.53	10.63	10.35
	1966	10.63	10.63	10.63	10.48	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.45
Kerosine (or No. 1 fuel oil) at New York Harbor (cargo)	1965	10.65	10.65	10.55	10.20	10.20	10.20	10.20	10.34	10.46	10.80	10.80	11.12	10.51
	1966	11.20	11.20	11.20	10.83	10.80	10.80	10.80	10.88	11.00	11.00	11.29	11.35	11.03
Kerosine (or No. 1 fuel oil) at Tampa	1965	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35	11.35
	1966	11.36	11.54	12.05	12.05	12.05	12.05	12.05	11.39	11.27	10.83	10.70	10.65	11.50
Distillate and diesel fuel oil: (cents per gallon)														
No. 2 fuel oil at refineries, Oklahoma	1965	9.63	9.63	9.34	9.13	9.13	9.13	9.13	9.13	9.22	9.38	9.53	9.63	9.33
	1966	9.63	9.63	9.63	9.48	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.45
No. 2 fuel oil at New York Harbor	1965	9.65	9.65	9.55	9.20	9.20	9.20	9.20	9.45	9.46	9.80	9.80	10.12	9.52
	1966	10.20	10.20	10.20	9.74	9.70	9.70	9.70	9.74	10.00	10.00	10.29	10.35	9.99
Diesel oil, shore plants, New York	1965	10.00	10.00	9.87	9.50	9.50	9.50	9.50	9.64	9.76	10.10	10.10	10.42	9.82
	1966	10.50	10.50	10.55	10.18	10.15	10.15	10.15	10.22	10.35	10.35	10.35	10.58	10.34
Diesel oil for ships: (dollars per barrel)														
New York	1965	4.16	4.16	4.09	3.91	3.91	3.91	3.91	3.91	4.02	4.15	4.15	4.28	4.05
	1966	4.31	4.31	4.31	4.20	4.18	4.18	4.18	4.21	4.28	4.28	4.28	4.36	4.26
New Orleans	[1] 1965	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26
San Pedro	1965	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09
	1966	5.09	5.09	5.09	4.75	4.44	4.44	4.44	4.44	4.44	4.44	4.44	4.44	4.63
Residual fuel oil: (dollars per barrel)														
No. 6 fuel at refineries, Oklahoma	1965	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.06	2.15	2.15	2.15	2.08
	1966	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
No. 5 fuel oil at New York Harbor	1965	2.78	2.78	2.77	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
	1966	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.78	2.76
Bunker "C" for ships:														
New York	1965	2.30	2.29	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.26
	1966	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
New Orleans	[1] 1965	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19
San Pedro	[1] 1965	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20

Lubricating oil: (cents per gallon)														
Oklahoma: 200 viscosity, No. 3 color neutral	[1] 1965	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
150–160 viscosity at 210° bright stock, 10–25 pour test	[1] 1965	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
Pennsylvania:														
200 viscosity, No. 2 color, neutral 420–425 flash, 25 pour test	1965	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
	1966	28.00	28.00	28.00	28.00	28.00	28.00	29.74	30.00	30.00	30.00	30.00	30.00	28.99
600 steam refined cylinder stock filterable	1965	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
	1966	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.50	22.04
South Texas: 500 viscosity, No. 2½–3½ color, neutral	[1] 1965	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Liquid petroleum gas (propane): (cents per gallon)														
New York Harbor	1965	8.13	8.13	8.13	8.17	7.50	7.50	7.50	7.50	7.63	7.75	7.78	8.01	7.81
	1966	8.13	8.13	8.13	8.13	8.13	8.14	8.25	8.25	8.25	8.58	8.75	8.75	8.30
Oklahoma	1965	4.00	4.00	3.97	3.69	3.63	3.63	3.70	3.94	4.28	4.50	4.58	4.93	4.07
	1966	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08	5.48	5.50	5.52	5.13
Baton Rouge	1965	4.60	4.50	4.47	4.19	4.13	4.13	4.17	4.25	4.56	4.88	5.00	5.18	4.50
	1966	5.25	5.25	5.25	5.46	5.50	5.50	5.50	5.50	5.57	5.75	5.75	5.77	5.50
Wax: (cents per pound)														
Pennsylvania 124° to 126°, White crude scale	[1] 1965	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13

[1] No change in price during 1966.

Source: Platt's Oil Price Handbook.

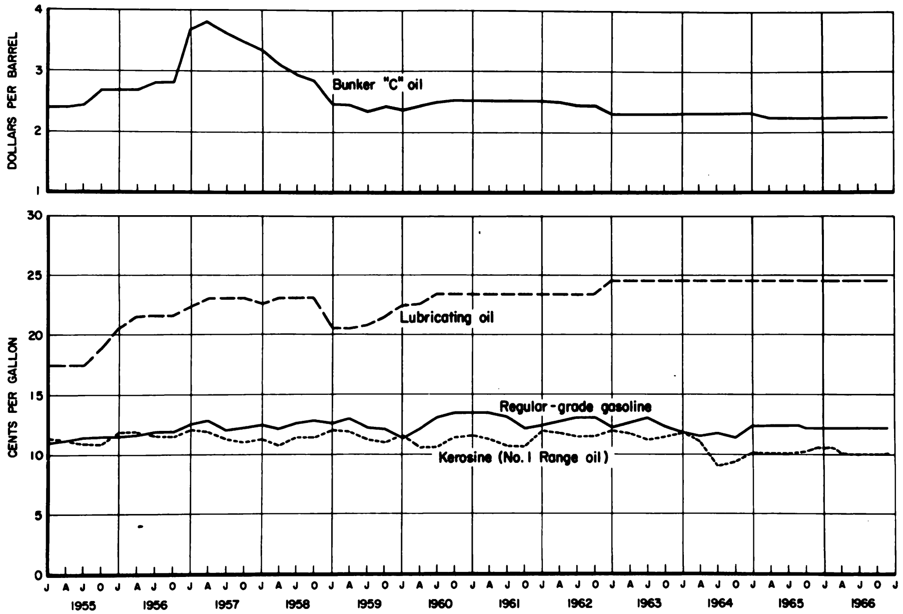

Figure 6.—Prices of Bunker "C" oil at New York Harbor, bright stock at Oklahoma refineries, No. 1 range oil at Chicago district and regular grade gasoline at refineries in Oklahoma, 1955–66, by quarters.

Table 32.—Salient statistics of the major refined petroleum products in the United States

(Thousand barrels)

	1964	1965	1966 p
Gasoline production:			
At refineries	1,649,400	1,693,741	1,783,700
At natural gasoline plants	11,901	10,660	8,938
Total	1,661,301	1,704,401	1,792,638
Stocks end of year	193,633	183,058	194,177
Imports	10,482	10,052	15,648
Exports	6,209	4,827	3,634
Domestic demand	1,657,906	1,720,201	1,793,533
Motor gasoline production:			
At refineries	1,598,186	1,645,172	1,742,456
At natural gasoline plants	11,901	10,660	8,938
Total	1,610,087	1,655,832	1,751,394
Stocks end of year	185,766	174,717	186,393
Imports	10,482	10,052	15,648
Exports	683	629	455
Domestic demand	1,611,348	1,676,304	1.754,911
Aviation gasoline production	51,214	48,569	41,244
Stocks end of year	7,867	8,341	7,784
Imports	------	------	------
Exports	5,526	4,198	3,179
Domestic demand	46,558	43,897	38,622
Special naphthas production:			
At refineries	25,878	28,734	29,634
At natural gasoline plants	266	123	116
Total	26,144	28,857	29,750
Stocks end of year	5,879	6,209	5,583
Imports	4,144	2,864	1,895
Exports	1,830	1,564	2,011
Domestic demand	27,551	29,827	30,260
Kerosine (including range oil) production:			
At refineries	93,474	93,149	100,849
At natural gasoline plants	1,493	1,306	1,226
Total	94,967	94,455	102,075
Stocks end of year	27,325	24,080	25,004
Imports	4	100	219
Exports	170	219	256
Domestic demand	92,738	97,581	101,114
Distillate fuel oil production:			
At refineries	742,046	765,071	784,717
At natural gasoline plants	393	359	1,132
Total	742,439	765,430	785,849
Crude used directly as distillate	755	773	752
Stocks end of year	155,846	155,407	154,096
Imports	11,785	13,002	13,845
Exports	5,386	3,830	4,518
Domestic demand	750,424	775,814	797,239
Residual fuel oil production:	266,825	268,567	263,961
Crude used directly as residual	3,720	3,950	3,551
Stocks end of year	40,403	56,214	61,196
Imports	295,771	345,187	376,795
Exports	18,870	14,882	12,879
Domestic demand	554,581	587,011	626,446
Jet fuel production:			
At refineries	182,131	191,055	215,446
At natural gasoline plants	409	113	50
Total	182,540	191,168	215,496
Stocks end of year	18,744	18,699	19,374
Imports	23,243	29,426	31,338
Exports	170	1,007	1,800
Domestic demand	204,253	219,632	244,359
Naphtha type production:			
At refineries	NA	82,416	89,473
At natural gasoline plants		113	50
Total		82,529	89,523
Stocks end of year		8,338	7,235
Imports		15,948	12,574
Exports		694	1,565
Domestic demand		97,813	101,635
Kerosine type production	NA	108,639	125,973
Stocks end of year		10,361	12,139
Imports		13,478	18,764
Exports		313	235
Domestic demand		121,819	142,724
Lubricant production	63,668	62,925	65,407
Stocks end of year	14,062	13,304	12,682
Imports	37	29	32

See footnotes at end of table.

Table 32.—Salient statistics of the major refined petroleum products in the United States—Continued

(Thousand barrels)

	1964	1965	1966 p
Exports:			
Grease	397	385	378
Oil	17,779	16,207	16,738
Total	18,176	16,592	17,116
Domestic demand	45,788	47,120	48,945
Wax (1 barrel=280 pounds) production:	5,352	5,456	5,772
Stocks end of year	908	890	861
Imports	--------	11	5
Exports	1,734	1,654	1,887
Domestic demand	3,596	3,831	3,919
Coke (5 barrels=1 short ton) production:			
Marketable coke	34,872	36,318	38,508
Catalyst coke	49,453	49,722	49,546
Total	84,325	86,040	88,054
Stocks end of year	6,795	7,389	7,297
Exports	13,618	11,819	14,465
Domestic demand	70,395	73,627	73,681
Asphalt (5.5 barrels=1 short ton) production	114,879	123,604	129,579
Stocks end of year	14,231	16,178	17,309
Imports (including natural)	5,912	6,302	6,104
Exports	759	362	476
Domestic demand	120,155	127,597	134,076
Road oil production	6,371	6,565	7,247
Stocks end of year	579	584	919
Domestic demand	6,545	6,560	6,912
Still gas for fuel production	131,257	135,295	135,459
Liquefied gases (including ethane) for fuel and chemical use:			
L.R.G. production:			
For fuel use	59,244	56,125	60,090
For chemical use	47,268	50,711	46,128
Total	106,512	106,836	106,218
Stocks of L.R.G. end of year:			
For fuel use	3,074	2,816	3,130
For chemical use	618	849	206
Total	3,692	3,665	3,336
L.P.G. for fuel and chemical use:			
Delivered from gasoline plants	189,619	200,218	215,081
Imports	4,128	7,553	10,489
Exports	5,358	7,521	8,179
Domestic demand:			
L.R.G. for fuel use	59,516	56,383	59,776
L.R.G. for chemical use	47,190	50,480	46,771
L.P.G. for fuel and chemical use	188,389	200,250	217,391
Total	295,095	307,113	323,938
Petrochemical feedstocks production	57,578	57,851	74,453
Stocks end of year	2,569	4,093	2,476
Imports:			
Naphtha–400°	--------	130	436
Other	--------	370	--------
Total	--------	500	436
Exports:			
Naphtha–400°	--------	--------	--------
Other	--------	1,952	2,709
Total	--------	1,952	2,709
Domestic demand:			
Still gas	7,698	8,926	10,068
Naphtha–400°	24,583	23,521	39,854
Other	25,318	22,428	23,875
Total	57,599	54,875	73,797
Miscellaneous production:			
At refineries	13,583	13,994	16,474
At natural gasoline plants	3,194	2,913	1,956
Total	16,777	16,907	18,430
Stocks end of year	1,819	1,809	2,128
Exports	236	962	989
Domestic demand	16,353	15,955	17,122
Unfinished oils (net):			
Input (plus) output (minus)	27,322	32,111	34,632
Stocks end of year	87,014	88,609	89,213
Imports	32,587	33,706	35,236
Shortage or (overage)	79,335	80,241	89,535

p Preliminary. NA Not available.

Table 33.—Input and output of petroleum products at refineries in the United States

(Thousand barrels)

	1962	1963	1964[1]	1965	1966[p]
Input:					
Crude petroleum:					
Domestic	2,659,826	2,758,168	2,785,895	2,847,821	3,000,789
Foreign	409,805	412,484	437,434	453,021	446,404
Total crude petroleum	3,069,631	3,170,652	3,223,329	3,300,842	3,447,193
Unfinished oils rerun (net)	27,733	31,934	27,322	32,111	34,632
Total crude and unfinished oils rerun	3,097,364	3,202,586	3,250,651	3,332,953	3,481,825
Natural gas liquids	182,756	190,143	213,264	225,676	235,580
Benzol	91	80	29	13	30
Output:					
Gasoline:					
Motor gasoline	NA	NA	1,598,186	1,645,172	1,742,456
Aviation gasoline			51,214	48,569	41,244
Total gasoline	1,533,256	1,581,209	1,649,400	1,693,741	1,783,700
Special naphthas	37,297	22,687	25,878	[1] 28,734	29,634
Kerosine[2]	156,373	164,805	93,474	93,149	100,849
Distillate fuel oil[2]	719,590	764,597	742,046	765,071	784,717
Residual fuel oil	295,679	275,910	266,825	268,567	263,961
Jet fuel:					
Naphtha–type	NA	NA	NA	82,416	89,473
Kerosine–type				108,639	125,973
Total jet fuel[2]	102,269	98,745	182,131	191,055	215,446
Lubricants	61,467	63,086	63,668	62,925	65,407
Wax[3]	5,353	5,126	5,352	5,456	5,772
Coke[3]	78,724	80,688	84,325	86,040	88,054
Asphalt[3]	109,576	111,948	114,879	123,604	129,579
Road oil	7,079	6,792	6,371	6,565	7,247
Still gas for fuel	130,829	129,598	131,257	135,295	135,459
Liquefied refinery gas (incl. ethane):					
For fuel use	NA	56,394	59,244	56,125	60,090
For chemical use		38,963	47,268	50,711	46,128
Total liquefied refinery gas	76,826	95,357	106,512	106,836	106,218
Petrochemical feedstocks:					
Still gas	NA	7,834	7,698	8,926	10,068
Naphtha–400°		21,984	24,657	24,511	38,446
Other		22,575	25,223	24,414	25,939
Total petrochemical feedstocks	[4] NA	52,393	57,578	57,851	74,453
Miscellaneous products[2]	29,794	13,578	13,583	13,994	16,474
Shortage (or overage)[5]	−63,901	−73,710	−79,335	−80,241	−89,535

[p] Preliminary. NA Not available.

[1] New basis, comparable to 1965 data.

[2] Production at natural gasoline plants shown as direct transfers and omitted from the input and output at the refineries.

[3] Conversion factors: 280 pounds of wax to the barrel; 5.0 barrels of coke to the short ton; 5.5 barrels of asphalt to the short ton.

[4] Formerly included with gasoline, kerosine, distillate fuel oil, residual fuel oil, liquefied petroleum gases, miscellaneous oils and unfinished oils.

[5] Includes losses or gains in volume during processing.

Table 34.—Input and output at refineries in the United States, by months

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Input:													
Crude petroleum:													
Domestic	241,431	218,033	236,728	224,879	234,242	233,094	246,043	245,571	227,740	242,641	242,223	255,196	2,847,821
Foreign	35,650	32,275	38,483	37,448	38,673	40,020	42,636	40,485	42,501	39,052	33,803	31,995	453,021
Total crude petroleum	277,081	250,308	275,211	262,327	272,915	273,114	288,679	286,056	270,241	281,693	276,026	287,191	3,300,842
Unfinished oils rerun (net)	5,247	5,914	−323	−1,247	1,578	818	3,375	5,890	4,149	−1,153	2,582	5,281	32,111
Total crude and unfinished oils rerun	282,328	256,222	274,888	261,080	274,493	273,932	292,054	291,946	274,390	280,540	278,608	292,472	3,332,953
Natural gas liquids	19,626	17,163	18,255	17,564	16,946	17,489	18,241	19,007	19,002	20,408	20,451	21,524	225,676
Benzol	2	2	1	3	1	1	------	------	------	------	2	1	13
Output:													
Gasoline:													
Motor gasoline	139,889	125,886	134,702	128,817	132,457	136,662	143,553	145,393	135,648	137,886	137,734	146,545	1,645,172
Aviation gasoline	4,691	3,803	4,031	3,792	4,324	3,982	4,163	4,138	4,073	3,770	3,882	3,920	48,569
Total gasoline [1]	144,580	129,689	138,733	132,609	136,781	140,644	147,716	149,531	139,721	141,656	141,616	150,465	1,693,741
Special naphthas [1]	2,294	2,252	2,349	2,253	2,223	2,601	2,444	2,375	2,366	2,471	2,482	2,624	28,734
Kerosine [1]	9,543	8,516	8,299	6,825	6,515	6,983	6,665	6,514	6,787	8,002	8,231	10,269	93,149
Distillate fuel oil [1]	66,765	60,930	62,188	58,544	61,453	58,692	65,497	66,370	62,744	65,652	66,112	70,124	765,071
Residual fuel oil	25,300	22,396	24,657	22,009	21,266	20,923	21,635	21,112	19,464	22,365	22,847	24,593	268,567
Jet fuel:													
Naphtha-type	6,065	6,002	7,050	6,635	7,477	6,681	6,987	7,365	7,056	7,221	6,806	7,071	82,416
Kerosine-type	8,808	7,712	8,952	9,102	9,418	8,964	9,816	8,674	8,934	9,275	9,423	9,561	108,639
Total jet fuel [1]	14,873	13,714	16,002	15,737	16,895	15,645	16,803	16,039	15,990	16,496	16,229	16,632	191,055
Lubricants:													
Bright stock	563	544	670	528	675	514	531	615	511	580	546	597	6,874
Neutral	1,845	1,975	2,077	2,044	2,035	1,913	2,186	2,112	2,007	1,824	2,097	2,130	24,245
Other grades	2,540	2,350	2,715	2,732	2,870	2,648	2,684	2,694	2,592	2,745	2,493	2,743	31,806
Total lubricants	4,948	4,869	5,462	5,304	5,580	5,075	5,401	5,421	5,110	5,149	5,136	5,470	62,925
Wax:													
Microcrystalline	79	70	75	84	86	71	70	80	68	80	75	79	917
Fully refined	247	204	266	237	273	245	251	252	252	303	267	275	3,072
Other	147	99	139	135	129	126	113	142	125	81	100	131	1,467
Total wax [2]	473	373	480	456	488	442	434	474	445	464	442	485	5,456

Coke [2]	7,478	7,031	7,240	6,660	6,948	7,035	7,374	7,445	7,214	6,792	7,058	7,765	86,040
Asphalt [2]	5,724	5,720	7,441	8,263	12,166	12,077	14,383	14,645	13,471	12,615	9,776	7,323	128,604
Road oil	256	249	338	358	637	953	1,213	1,156	579	506	148	172	6,565
Still gas for fuel	11,322	10,441	11,175	10,635	11,405	11,600	12,442	12,336	11,208	10,955	10,644	11,132	135,295
Liquefied gases (incl. ethane):													
L.R.G. for fuel use	4,818	4,789	4,794	4,502	4,852	4,839	4,893	4,780	4,291	4,309	4,184	5,074	56,125
L.R.G. for chemical use	3,989	3,888	4,706	4,376	4,494	4,210	4,335	4,182	4,261	4,103	4,042	4,125	50,711
Total liquefied gases	8,807	8,677	9,500	8,878	9,346	9,049	9,228	8,962	8,552	8,412	8,226	9,199	106,836
Petrochemical feedstocks:													
Still gas	909	633	786	759	846	751	681	676	656	732	672	765	8,866
Naphtha–400°	2,147	1,872	2,423	1,730	1,603	1,931	1,987	1,921	2,308	2,091	2,622	1,936	24,571
Other	1,780	1,912	1,849	2,072	2,111	2,109	2,065	2,217	2,156	2,085	2,052	2,006	24,414
Total petrochemical feedstocks	4,836	4,417	5,058	4,561	4,560	4,791	4,733	4,814	5,120	4,908	5,346	4,707	57,851
Miscellaneous products [1]	1,186	938	1,144	1,010	1,220	1,239	1,258	1,333	1,252	1,122	1,118	1,174	13,994
Processing gain	−6,429	−6,825	−6,922	−5,455	−6,043	−6,327	−6,931	−7,574	−6,631	−6,617	−6,350	−8,137	−80,241

See footnotes at end of table.

Table 34.—Input and output at refineries in the United States, by months—Continued

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
1966:[p]													
Input:													
Crude petroleum:													
Domestic	251,325	227,527	247,109	237,265	251,691	247,917	259,783	258,902	253,711	257,350	245,183	263,026	3,000,789
Foreign	39,293	34,104	38,163	34,444	38,429	37,648	39,986	39,003	36,361	38,031	35,705	35,237	446,404
Total crude petroleum	290,618	261,631	285,272	271,709	290,120	285,565	299,769	297,905	290,072	295,381	280,888	298,263	3,447,193
Unfinished oils rerun (net)	5,716	3,364	−410	482	−1,646	375	4,723	8,214	2,719	2,022	4,200	4,873	34,632
Total crude and unfinished oils rerun	296,334	264,995	284,862	272,191	288,474	285,940	304,492	306,119	292,791	297,403	285,088	303,136	3,481,825
Natural gas liquids	20,724	17,925	18,835	18,594	18,592	18,487	19,554	19,605	19,461	20,743	21,024	22,036	235,580
Benzol	1	1	------	------	1	2	4	------	5	5	5	6	30
Output:													
Gasoline:													
Motor gasoline	147,996	129,822	142,267	136,281	143,593	142,917	151,683	152,893	147,133	151,285	145,053	151,533	1,742,456
Aviation gasoline	3,700	3,291	3,348	3,029	3,274	3,179	3,542	3,581	3,513	3,575	3,472	3,740	41,244
Total gasoline [1]	151,696	133,113	145,615	139,310	146,867	146,096	155,225	156,474	150,646	154,860	148,525	155,273	1,783,700
Special naphthas [1]	2,655	2,340	2,490	2,250	2,659	2,502	2,397	2,553	2,588	2,581	2,345	2,274	29,634
Kerosine [1]	10,128	9,604	9,418	6,910	7,375	7,107	8,024	8,928	7,603	7,709	8,090	9,953	100,849
Distillate fuel oil [1]	70,042	62,696	64,577	60,282	63,739	61,979	67,201	69,074	65,765	66,460	63,087	69,815	784,717
Residual fuel oil	26,305	22,185	23,792	20,501	20,521	19,565	21,621	20,896	20,372	21,197	21,741	25,265	263,961
Jet fuel:													
Naphtha-type	6,407	5,336	6,561	6,952	7,074	7,440	7,512	8,207	8,006	8,981	8,104	8,893	89,473
Kerosine-type	10,364	10,318	11,311	10,694	11,396	11,143	10,257	8,129	9,695	10,483	11,538	10,645	125,973
Total jet fuel	16,771	15,654	17,872	17,646	18,470	18,583	17,769	16,336	17,701	19,464	19,642	19,538	215,446
Lubricants:													
Bright stock	590	480	496	465	489	381	519	551	537	570	459	624	6,161
Neutral	2,339	2,030	2,204	2,265	2,363	2,101	2,514	2,452	2,339	2,352	2,120	2,354	27,433
Other grades	2,696	2,612	2,662	2,569	2,783	2,651	2,765	2,762	2,547	2,923	2,635	2,208	31,813
Total lubricants	5,625	5,122	5,362	5,299	5,635	5,133	5,798	5,765	5,423	5,845	5,214	5,186	65,407
Wax:													
Microcrystalline	73	83	94	79	85	100	95	99	88	81	82	78	1,037
Fully refined	260	244	295	280	264	298	273	270	210	263	304	290	3,251
Other	161	112	124	141	140	100	131	103	172	113	93	94	1,484
Total wax [2]	494	439	513	500	489	498	499	472	470	457	479	462	5,772
Coke [2]	7,788	6,761	7,388	6,906	7,240	7,097	7,351	7,651	7,027	7,391	7,589	7,865	88,054
Asphalt [2]	6,580	6,027	7,956	10,253	11,430	13,795	14,057	14,817	14,194	12,946	10,026	7,498	129,579
Road oil	210	199	486	554	573	874	1,369	1,257	771	424	172	358	7,247
Still gas for fuel	11,179	10,453	10,060	11,143	11,412	11,577	12,296	11,990	11,609	11,022	11,111	11,607	135,459

Liquefied gases (incl. ethane):													
L.R.G. for fuel use	5,357	4,927	5,282	4,874	5,349	4,865	5,075	5,085	4,614	4,775	4,829	5,108	60,090
L.R.G. for chemical use	4,261	3,922	3,648	4,197	4,444	3,430	3,854	4,113	3,522	3,499	3,574	3,664	46,128
Total liquefied gases	9,618	8,849	8,930	9,071	9,793	8,295	8,929	9,148	8,136	8,274	8,403	8,772	106,218
Petrochemical feedstocks:													
Still gas	742	648	927	941	774	813	739	894	864	951	824	951	10,068
Naphtha–400°	2,439	2,474	2,626	2,664	2,708	3,351	3,736	3,883	3,247	3,743	3,856	3,719	38,446
Other	1,860	1,793	2,070	2,240	2,271	2,212	2,345	2,335	1,966	2,141	2,225	2,481	25,939
Total petrochemical feedstocks	5,041	4,915	5,623	5,845	5,753	6,376	6,820	7,112	6,077	6,835	6,905	7,151	74,453
Miscellaneous products [1]	1,153	1,311	1,231	1,305	1,446	1,466	1,473	1,563	1,288	1,442	1,439	1,357	16,474
Processing gain	−8,226	−6,747	−7,616	−6,990	−6,335	−6,514	−6,779	−8,312	−7,413	−8,756	−8,651	−7,196	−89,535

[p] Preliminary.

[1] Production at natural gas processing plants shown as direct transfers and omitted from the input and output at refineries.

[2] Conversion factors: 280 pounds of wax to the barrel; 5.0 barrels of coke to the short ton; 5.5 barrels of asphalt to the short ton.

Table 35.—Input and output at refineries in the United States, by districts

(Thousand barrels)

	PAD district I			PAD district II					PAD district III						PAD dist. IV	PAD dist. V	United States total
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., etc.	Minn., Wisc., etc.	Okla., Kans., etc.	Total	Texas Inland	Texas Gulf	La. Gulf	Ark., La. Inland etc.	New Mexico	Total	Other Rocky Mountain	West Coast	
1965:																	
Input:																	
Crude petroleum:																	
Domestic	147,772	30,793	178,565	36,896	584,210	26,678	276,908	924,692	117,086	772,593	332,482	45,948	11,559	1,279,668	115,690	349,206	2,847,821
Foreign	249,801	9,615	259,416	-----	11,598	29,158	-----	40,756	-----	-----	27	46	-----	73	4,861	147,915	453,021
Total crude petroleum	397,573	40,408	437,981	36,896	595,808	55,836	276,908	965,448	117,086	772,593	332,509	45,994	11,559	1,279,741	120,551	497,121	3,300,842
Unfinished oils rerun (net)	40,551	860	41,411	1,085	−1,593	−27	604	69	970	−15,924	−4,410	1,239	−10	−18,135	−385	9,151	32,111
Total crude and unfinished oils rerun	438,124	41,268	479,392	37,981	594,215	55,809	277,512	965,517	118,056	756,669	328,099	47,233	11,549	1,261,606	120,166	506,272	3,332,953
Natural gas liquids	5,909	13	5,922	863	22,513	2,156	19,241	44,773	23,766	91,716	21,377	7,178	1,074	145,111	4,944	24,926	225,676
Benzol	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	13	-----	13
Output:																	
Gasoline:																	
Motor gasoline	198,938	16,604	215,542	19,688	311,620	28,344	158,634	518,286	75,364	375,011	149,514	24,501	7,069	631,459	58,677	221,208	1,645,172
Aviation gasoline	2,593	5	2,598	1	5,216	-----	1,367	6,584	3,922	11,270	12,406	-----	-----	27,598	925	10,864	48,569
Total gasoline[1]	201,531	16,609	218,140	19,689	316,836	28,344	160,001	524,870	79,286	386,281	161,920	24,501	7,069	659,057	59,602	232,072	1,693,741
Special naphthas[1]	1,428	449	1,877	165	3,849	-----	2,082	6,096	1,131	14,861	433	715	-----	17,140	525	3,096	28,734
Kerosine[1]	9,106	1,150	10,256	745	17,731	2,022	3,262	23,760	1,526	39,668	12,899	1,896	189	56,178	2,509	446	93,149
Distillate fuel oil[1]	115,748	9,787	125,535	7,482	126,421	13,313	68,315	215,531	18,830	207,274	82,164	10,575	2,006	320,849	26,906	76,250	765,071
Residual fuel oil	32,069	3,713	35,782	3,166	48,391	6,749	3,519	61,825	4,109	35,481	14,072	2,748	360	56,770	11,593	102,597	268,567
Jet fuel:																	
Naphtha-type	2,301	753	3,054	76	8,770	2,106	6,961	17,913	10,221	15,777	9,878	1,295	1,393	38,564	5,579	17,306	82,416
Kerosine-type	5,837	129	5,966	1,202	16,178	25	8,052	25,457	5,355	20,375	20,373	80	-----	46,183	988	30,045	108,639
Total jet fuel[1]	8,138	882	9,020	1,278	24,948	2,131	15,013	43,370	15,576	36,152	30,251	1,375	1,393	84,747	6,567	47,351	191,055
Lubricants:																	
Bright stock	890	1,119	2,009	25	730	-----	493	1,248	17	1,931	797	377	-----	3,122	37	458	6,874
Neutral	2,638	1,601	4,239	75	4,536	-----	3,181	7,792	-----	4,913	5,400	115	-----	10,428	263	1,523	24,245
Other grades	4,225	756	4,981	320	463	-----	1,460	2,243	156	18,201	871	1,500	-----	20,728	148	3,706	31,806
Total lubricants	7,753	3,476	11,229	420	5,729	-----	5,134	11,283	173	25,045	7,068	1,992	-----	34,278	448	5,687	62,925

Wax:																	
Microcrystalline	200	174	374	-----	20	-----	200	220	71	134	103	-----	-----	308	15	-----	917
Fully refined	1,332	49	1,381	53	269	-----	222	544	-----	473	304	-----	-----	777	74	296	3,072
Other	498	206	704	25	161	-----	83	269	-----	354	2	-----	-----	356	12	126	1,467
Total wax [2]	2,030	429	2,459	78	450	-----	505	1,033	71	961	409	-----	-----	1,441	101	422	5,456
Coke [2]	13,766	236	14,002	473	17,285	2,395	7,784	27,937	2,145	17,741	7,772	2,098	123	29,879	3,388	10,834	86,040
Asphalt [2]	28,366	1,336	29,702	3,486	23,723	1,797	12,653	41,659	5,865	7,853	7,738	5,829	812	28,097	7,435	16,711	123,604
Road oil	11	617	628	-----	2,044	158	1,403	3,605	-----	28	-----	-----	-----	28	1,262	1,042	6,565
Still gas for fuel	18,556	1,726	20,282	1,765	26,720	1,476	11,464	41,425	5,459	26,555	10,566	2,204	340	45,124	4,352	24,112	135,295
Liquefiied gases (incl. ethane):																	
L.R.G. for fuel use	9,126	762	9,888	550	9,271	986	7,040	17,847	2,678	8,534	7,123	809	214	19;358	1,437	7,595	56,125
L.R.G. for chemical use	3,465	-----	3,465	-----	1,756	-----	67	1,823	154	34.932	5,569	221	-----	40,876	1	4,546	50,711
Total liquefied gases	12,591	762	13,353	550	11,027	986	7,107	19,670	2,832	43,466	12,692	1,030	214	60,234	1,438	12,141	106,836
Petrochemical feedstocks:																	
Still gas	1,643	-----	1,643	-----	1,351	-----	-----	1,351	-----	4,461	-----	-----	-----	4,461	-----	1,411	8,866
Naphtha-400°	1,996	-----	1.996	-----	3,520	-----	589	4,109	1,299	13,821	881	49	-----	16,050	1	2,415	24,571
Other	389	262	651	-----	2,310	-----	8	2,318	2,643	5,973	11,544	225	151	20,536	273	636	24,414
Total petrochemical feedstocks	4,028	262	4,290	-----	7,181	-----	597	7,778	3,942	24,255	12,425	274	151	41,047	274	4,462	57,851
Miscellaneous products [1]	1,791	178	1,969	32	1,021	93	2,424	3,570	1,221	4,359	57	14	-----	5,651	255	2,549	13,994
Processing gain	−12,879	−331	−13,210	−485	−16,628	−1,499	−4,510	−23,122	−344	−21,595	−10,990	−840	−34	−33,803	−1,532	−8,574	−80,241

See footnotes at end of table.

Table 35.—Input and output at refineries in the United States, by districts—Continued

(Thousand barrels)

	PAD district I			PAD district II					PAD district III						PAD dist. IV	PAD dist. V	United States total
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., etc.	Minn., Wisc., etc.	Okla., Kans., etc.	Total	Texas Inland	Texas Gulf	La. Gulf	Ark., La. Inland etc.	New Mexico	Total	Other Rocky Mountain	West Coast	
1966:																	
Input:																	
Crude petroleum:																	
Domestic	172,175	27,984	200,159	28,513	615,951	27,648	298,627	970,739	124,001	797,618	356,737	46,817	12,267	1,337,440	118,642	373,809	3,000,789
Foreign	244,818	14,504	259,322	-----	15,936	31,560	-----	47,496	-----	-----	432	-----	-----	432	4,858	134,296	446,404
Total crude petroleum	416,993	42,488	459,481	28,513	631,887	59,208	298,627	1,018,235	124,001	797,618	357,169	46,817	12,267	1,337,872	123,500	508,105	3,447,193
Unfinished oils rerun (net)	51,158	611	51,769	1,587	−2,930	−34	−77	−1,454	887	−15,407	−9,274	598	35	−23,161	487	6,991	34,632
Total crude and unfinished oils rerun	468,151	43,099	511,250	30,100	628,957	59,174	298,550	1,016,781	124,888	782,211	347,895	47,415	12,302	1,314,711	123,987	515,096	3,481,825
Natural gas liquids	5,698	89	5,787	462	20,627	2,437	18,466	41,992	23,386	103,591	22,730	7,159	1,077	157,943	4,757	25,101	235,580
Benzol	-----	-----	-----	-----	24	-----	-----	24	-----	-----	-----	-----	-----	-----	6	-----	30
Output:																	
Gasoline:																	
Motor gasoline	211,530	16,571	228,101	15,354	336,523	30,810	173,680	556,367	77,455	399,459	158,004	24,240	7,620	666,778	62,836	228,374	1,742,456
Aviation gasoline	2,300	19	2,319	-----	4,605	-----	1,165	5,770	3,519	9,504	10,807	-----	-----	23,830	802	8,523	41,244
Total gasoline [1]	213,830	16,590	230,420	15,354	341,128	30,810	174,845	562,137	80,974	408,963	168,811	24,240	7,620	690,608	63,638	236,897	1,783,700
Special naphthas [1]	1,300	437	1,737	177	3,628	-----	2,431	6,236	1,009	16,520	521	748	-----	18,798	559	2,304	29,634
Kerosine [1]	11,749	1,255	13,004	643	18,021	2,317	3,365	24,346	1,546	44,344	12,678	1,738	173	60,479	2,542	478	100,849
Distillate fuel oil [1]	122,456	10,587	133,043	5,837	128,908	14,467	72,129	221,341	20.923	203,001	91,531	11,597	2,175	329,227	28,354	72,752	784,717
Residual fuel oil	35,132	4,314	39,446	2,262	42,571	5,616	3,941	54,390	4,867	35,815	11,652	1,800	347	54,481	10,687	104,957	263,961
Jet fuel:																	
Naphtha-type	2,805	736	3,541	22	9,064	2,037	6,965	18,088	10,179	20,540	11,211	1,410	1,199	44,539	3.924	19,381	89,473
Kerosine-type	9,057	259	9,316	715	20,436	-----	7,737	28,888	7,412	23,486	23,307	107	-----	54,312	1,313	32,144	125,973
Total jet fuel [1]	11,862	995	12,857	737	29,500	2,037	14,702	46,976	17,591	44,026	34,518	1,517	1,199	98,851	5,237	51,525	215,446
Lubricants:																	
Bright stock	695	1,270	1,965	8	944	-----	562	1,514	-----	1,562	701	-----	-----	2,263	43	376	6,161
Neutral	2,952	1,674	4,626	176	5,040	-----	3,092	8,308	-----	6,531	5,901	132	-----	12,564	247	1,688	27,433
Other grades	3,314	621	3,935	222	156	-----	1,484	1,862	156	19,221	1,117	2,059	-----	22,553	187	3,276	31,813
Total lubricants	6,961	3,565	10,526	406	6,140	-----	5,138	11,684	156	27,314	7,719	2,191	-----	37,380	477	5,340	65,407

Wax:																	
Microcrystalline	251	222	473	-----	24	-----	200	224	66	182	84	-----	-----	332	8	-----	1,037
Fully refined	1,338	71	1,409	53	218	-----	244	515	-----	525	389	-----	-----	914	96	317	3,251
Other	468	175	643	16	122	-----	77	215	-----	412	23	-----	-----	435	10	181	1,484
Total wax [2]	2,057	468	2,525	69	364	-----	521	954	66	1,119	496	-----	-----	1,681	114	498	[1] 5,772
Coke [2]	13,652	217	13,869	289	18,562	2,710	8,010	29,571	2,198	17,376	8,919	1,970	183	30,646	3,007	10,961	88,054
Asphalt [2]	27,750	1,359	29,109	3,299	26,756	2,278	12,328	44,661	5,849	7,983	8,445	5,981	883	29,141	7,840	18,828	129,579
Road oil	13	793	806	-----	1,519	215	1,835	3,569	-----	29	-----	-----	-----	29	1,553	1,290	7,247
Still gas for fuel	17,364	1,641	19,005	1,426	29,019	1,538	11,742	43,725	5,456	26,956	10,326	2,172	517	45,427	4,654	22,648	135,459
Liquefied gases (incl. ethane):																	
L.R.G. for fuel use	10,771	760	11,531	454	10,365	1,190	7,673	19,682	3,141	8,306	7,622	793	242	20,104	1,632	7,141	60,090
L.R.G. for chemical use	3,528	-----	3,528	-----	1,839	-----	340	2,179	143	28,178	7,295	203	-----	35,819	-----	4,602	46,128
Total liquefied gases	14,299	760	15,059	454	12,204	1,190	8,013	21,861	3,284	36,484	14,917	996	242	55,923	1,632	11,743	106,218
Petrochemical feedstocks:																	
Still gas	1,846	-----	1,846	-----	1,410	-----	-----	1,410	-----	5,890	-----	-----	-----	5,890	-----	922	10,068
Naphtha–400°	2,298	-----	2,298	-----	3,542	-----	1,528	5,070	1,374	24,006	820	42	-----	26,242	-----	4,836	38,446
Other	707	256	963	-----	2,529	-----	71	2,600	2,584	7,103	11,285	244	188	21,404	328	644	25,939
Total petrochemical feedstocks	4,851	256	5,107	-----	7,481	-----	1,599	9,080	3,958	36,999	12,105	286	188	53,536	328	6,402	74,453
Miscellaneous products [1]	1,658	171	1,829	16	1,052	106	2,387	3,561	1,020	5,222	909	8	-----	7,159	195	3,730	16,474
Processing gain	−11,085	−220	−11,305	−407	−17,245	−1,673	−5,970	−25,295	−623	−26,349	−12,922	−670	−148	−40,712	−2,067	−10,156	−89,535

ᵖPreliminary.

[1] Production at natural gas processing plants shown as direct transfers and omitted from the input and output at refineries.

[2] Conversion factors: 280 pounds of wax to the barrel; 5.0 barrels of coke to the short ton; 5.5 barrels of asphalt to the short ton.

Table 36.—Percentage yields of refined petroleum products from crude oil in the United States [1]

Product	1957	1958	1959	1960	1961	1962	1963	1964 [2]	1965	1966 p
Finished products:										
Gasoline	43.8	45.2	44.9	45.2	44.7	44.8	44.1	44.1	44.0	44.4
Special naphthas	(3)	(3)	(3)	(3)	(3)	(3)	(3)	.8	.9	.9
Kerosine	3.8	3.9	3.8	4.6	4.7	5.0	5.1	2.9	2.8	2.9
Distillate fuel oil	23.1	22.4	23.1	22.4	23.1	23.2	23.9	22.8	22.9	22.5
Residual fuel oil	14.4	12.9	11.8	11.2	10.5	9.6	8.6	8.2	8.1	7.6
Jet fuel	2.2	2.6	3.2	3.0	3.1	3.3	3.1	5.6	5.7	6.2
Lubricating oil	1.9	1.8	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.8
Wax	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2
Coke	1.2	1.3	1.4	2.0	2.5	2.6	2.6	2.6	2.5	2.5
Asphalt	3.0	3.2	3.3	3.3	3.4	3.5	3.5	3.5	3.7	3.8
Road oil	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Still gas	4.3	4.4	4.3	4.4	4.2	4.3	4.0	4.0	4.1	3.9
Liquefied gases	1.9	2.0	2.3	2.6	2.7	2.5	1.8	3.3	3.2	3.0
Petrochemical feedstocks	[4] NA	[4] NA	[4] NA	[4] NA	[4] NA	[4] NA	2.8	1.8	1.7	2.1
Other finished products	.5	.7	.7	.8	.8	.9	.4	.4	.5	.5
Shortage	−.5	−.8	−1.1	−1.9	−2.1	−2.0	−2.2	−2.4	−2.4	−2.5
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

p Preliminary. NA Not available.

[1] Other unfinished oils added to crude in computing yields.

[2] New basis, comparable to 1965 data.

[3] Included with gasoline.

[4] Included with gasoline, kerosine, distillate fuel oil, residual fuel oil, liquefied petroleum gases, and miscellaneous and unfinished oils.

Table 37.—Petroleum refinery capacity in the United States and Puerto Rico [1], January 1

Year	Number of refineries				Crude-oil throughput capacity (barrels per day)				
	Operating	Shutdown	Total	Building	Operating	Shutdown		Total	Building
						Operable	Inoperable		
1962	287	24	311	1	9,812,248	220,799	72,100	10,105,147	110,350
1963	287	21	308	2	9,814,791	196,130	107,400	10,118,321	178,300
1964	282	22	304	1	10,063,164	242,610	79,600	10,385,374	54,700
1965	275	27	302	1	10,308,811	258,540	354,744	10,922,095	74,960
1966	269	19	288	1	10,319,159	222,680	98,900	10,640,739	455,300
1967	262	21	283	2	10,565,247	245,960	101,200	10,912,407	720,700

[1] Includes Puerto Rico for 1965–67 only.

Table 38.—Number and capacity of petroleum refineries in the United States, by Bureau of Mines Refining Districts, January 1, 1967

Refining district	Petroleum refineries (number)			Crude-oil distillation, crude-oil throughput capacity (barrels per calendar day)				Cracking and reforming capacity, gasoline output capacity [1] (barrels per calendar day)			
	Total	Oper-ating	Shut-down	Operating	Shutdown	Total	Building	Operating	Shutdown	Total	Building
Refining district:											
East Coast	23	18	5	1,279,700	152,700	1,432,400	-------	517,964	8,850	526,814	50,800
Appalachian No. 1	13	13	--	129,600	3,000	132,600	-------	50,425	3,780	54,205	-------
Appalachian No. 2	3	2	1	62,000	6,000	68,000	-------	27,110	1,460	28,570	-------
Ind.-Ill.-Ky.	48	44	4	1,883,515	45,660	1,929,175	167,000	877,215	15,803	893,018	76,900
Minn.-Wisc.	7	6	1	178,300	5,000	183,300	14,500	61,860	500	62,360	13,000
Okla.-Kansas	30	29	1	864,700	12,900	877,600	-------	440,918	2,500	443,418	1,600
Texas Inland	27	24	3	373,232	27,600	400,832	-------	174,550	18,130	192,680	-------
Texas Gulf	26	25	1	2,396,500	3,400	2,399,900	305,000	1,081,535	450	1,081,985	76,800
Louisiana Gulf	8	8	--	999,750	40,000	1,039,750	154,200	452,690	-------	452,690	190,900
Ark.-La. Inland	18	18	--	160,400	-------	160,400	-------	64,700	-------	64,700	-------
New Mexico	7	7	--	37,400	-------	37,400	-------	14,450	-------	14,450	1,850
Other Rocky Mt.	32	28	4	384,450	25,100	409,550	-------	157,760	9,250	167,010	-------
West Coast	39	38	1	1,662,900	25,800	1,688,700	80,000	773,385	22,045	795,430	65,610
United States total:											
1967	281	260	21	10,412,447	347,160	10,759,607	[2] 720,700	4,694,562	82,768	4,777,330	477,460
1966	286	267	19	10,171,159	321,580	10,492,739	455,300	3,860,921	113,765	3,974,686	343,055

[1] Capacity expressed in terms of gasoline production.

[2] Includes capacity under construction for replacement in barrels per day—Crude oil: Illinois, 111,000; Texas Gulf, 218,000; and for cracked and reformed gasoline: Louisiana Gulf, 6,200; and Pennsylvania (East), 19,000. All other figures represent additional capacity under construction.

Table 39.—Salient statistics of motor and aviation gasoline in the United States, by months

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
							1965						
Production:													
Gasoline produced at refineries:													
Motor gasoline	139,889	125,886	134,702	128,817	132,457	136,662	143,553	145,393	135,648	137,886	137,734	146,545	1,645,172
Aviation gasoline	4,691	3,803	4,031	3,792	4,324	3,982	4,163	4,138	4,073	3,770	3,882	3,920	48,569
Motor gasoline produced at natural gasoline plants	1,001	819	934	816	1,082	959	803	862	812	763	874	935	10,660
Total gasoline production	145,581	130,508	139,667	133,425	137,863	141,603	148,519	150,393	140,533	142,419	142,490	151,400	1,704,401
Daily average	4,696	4,661	4,505	4,447	4,447	4,720	4,791	4,851	4,684	4,594	4,750	4,884	4,670
Stocks, end of period:													
Motor gasoline	205,734	216,576	216,063	208,331	197,102	184,318	176,901	173,338	171,527	168,229	171,203	174,717	174,717
Aviation gasoline	8,191	8,467	8,848	9,022	8,509	8,245	8,186	8,452	8,743	8,379	8,044	8,341	8,341
Total stocks	213,925	225,043	224,911	217,353	205,611	192,563	185,087	181,790	180,270	176,608	179,247	183,058	183,058
Imports:													
Motor gasoline	513	489	912	304	469	1,256	1,040	1,030	722	1,205	619	1,493	10,052
Exports:													
Motor gasoline	47	49	52	107	92	55	30	49	38	18	45	47	629
Aviation gasoline	806	164	369	309	424	592	241	399	321	112	345	116	4,198
Total exports	853	213	421	416	516	647	271	448	359	130	390	163	4,827
Domestic demand:													
Motor gasoline	121,388	116,303	137,009	137,562	145,145	151,606	152,783	150,799	138,955	143,134	136,208	145,412	1,676,304
Aviation gasoline	3,561	3,363	3,281	3,309	4,413	3,654	3,981	3,473	3,461	4,022	3,872	3,507	43,897
Total domestic demand	124,949	119,666	140,290	140,871	149,558	155,260	156,764	154,272	142,416	147,156	140,080	148,919	1,720,201
							1966 p						
Production:													
Gasoline produced at refineries:													
Motor gasoline	147,996	129,822	142,267	136,281	143,593	142,917	151,683	152,893	147,133	151,285	145,053	151,533	1,742,456
Aviation gasoline	3,700	3,291	3,348	3,029	3,274	3,179	3,542	3,581	3,513	3,575	3,472	3,740	41,244
Motor gasoline produced at natural gasoline plants	766	725	701	820	837	744	771	720	641	668	767	778	8,938
Total gasoline production	152,462	133,838	146,316	140,130	147,704	146,840	155,996	157,194	151,287	155,528	149,292	156,051	1,792,638
Daily average	4,918	4,780	4,720	4,671	4,765	4,895	5,032	5,071	5,043	5,017	4,976	5,034	4,911

Stocks, end of period:													
Motor gasoline	194,984	203,088	205,033	198,980	195,555	178,661	176,344	169,844	172,351	177,791	180,187	186,393	186,393
Aviation gasoline	8,495	9,099	9,168	8,965	8,066	7,208	6,956	7,184	7,325	7,410	7,054	7,784	7,784
Total stocks	203,479	212,187	214,201	207,945	203,621	185,869	183,300	177,028	179,676	185,201	187,241	194,177	194,177
Imports:													
Motor gasoline	713	1,026	1,365	1,103	1,790	1,251	1,464	1,483	1,715	1,270	1,123	1,345	15,648
Exports:													
Motor gasoline	101	30	20	21	12	42	37	16	51	89	14	22	455
Aviation gasoline	76	145	206	206	132	407	399	391	379	258	398	182	3,179
Total exports	177	175	226	227	144	449	436	407	430	347	412	204	3,634
Domestic demand:													
Motor gasoline	129,107	123,439	142,368	144,236	149,633	161,764	156,198	161,580	146,931	147,694	144,533	147,428	1,754,911
Aviation gasoline	3,470	2,542	3,073	3,026	4,041	3,630	3,395	2,962	2,993	3,232	3,430	2,828	38,622
Total domestic demand	132,577	125,981	145,441	147,262	153,674	165,394	159,593	164,542	149,924	150,926	147,963	150,256	1,793,533

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Table 40.—Production of gasoline at refineries and natural gasoline plants in the United States in 1966 p, by districts and months

(Thousand barrels)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Motor gasoline at refineries:													
East Coast	18,428	16,198	16,971	15,765	17,920	17,125	18,690	18,936	17,190	18,172	17,622	18,513	211,530
Appalachian No. 1	1,444	1,211	1,278	1,255	1,308	1,442	1,348	1,415	1,301	1,571	1,530	1,468	16,571
Appalachian No. 2	1,783	1,668	1,842	1,701	1,634	1,641	963	913	816	759	713	921	15,354
Indiana, Illinois, Kentucky, etc.	28,408	24,970	27,158	24,560	25,286	27,470	29,241	30,362	28,393	30,452	28,966	31,257	336,523
Minnesota, Wisconsin, etc.	2,779	2,453	2,562	2,003	2,339	2,654	2,732	2,607	2,395	2,692	2,778	2,816	30,810
Oklahoma, Kansas, etc.	14,361	12,449	13,970	13,698	14,477	13,876	15,176	15,651	15,010	15,270	14,662	15,080	173,680
Texas Inland	6,606	5,735	6,041	5,991	6,019	6,430	6,770	6,891	6,451	6,887	6,708	6,926	77,455
Texas Gulf Coast	33,253	28,991	32,441	32,431	34,066	32,346	33,952	34,168	33,745	34,972	33,830	35,264	399,459
Louisiana Gulf Coast	13,795	11,759	13,575	13,398	14,010	12,459	13,505	14,003	13,864	12,676	11,552	13,408	158,004
Arkansas, Louisiana Inland, etc.	2,026	1,842	1,888	2,058	2,045	1,990	2,079	2,081	1,978	2,100	1,981	2,172	24,240
New Mexico	701	605	633	633	638	628	625	647	520	629	651	710	7,620
Rocky Mountain	5,507	4,836	5,097	4,459	4,839	5,138	5,381	5,591	5,388	5,505	5,178	5,917	62,836
West Coast	18,905	17,105	18,811	18,329	19,012	19,718	21,221	19,628	20,082	19,600	18,882	17,081	228,374
Total	147,996	129,822	142,267	136,281	143,593	142,917	151,683	152,893	147,133	151,285	145,053	151,533	1,742,456
Aviation gasoline at refineries:													
East Coast	206	200	240	195	150	198	182	262	100	149	198	220	2,300
Appalachian No. 1	-----	-----	-----	-----	8	-----	-----	7	-----	-----	4	-----	19
Appalachian No. 2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Indiana, Illinois, Kentucky, etc.	451	421	389	161	429	315	438	355	448	455	406	337	4,605
Minnesota, Wisconsin, etc.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Oklahoma, Kansas, etc.	105	80	102	53	90	78	132	80	107	107	125	106	1,165
Texas Inland	294	296	260	273	285	287	245	280	342	298	326	333	3,519
Texas Gulf Coast	771	739	728	643	531	689	921	958	865	833	801	1,025	9,504
Louisiana Gulf Coast	1,237	846	746	953	956	793	932	816	780	849	915	984	10,807
Arkansas, Louisiana Inland, etc.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New Mexico	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Rocky Mountain	52	62	58	76	66	76	72	82	66	77	46	69	802
West Coast	584	647	825	675	759	743	620	741	805	807	651	666	8,523
Total	3,700	3,291	3,348	3,029	3,274	3,179	3,542	3,581	3,513	3,575	3,472	3,740	41,244
Motor Gasoline produced at natural gasoline plants:													
East Coast	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Appalachian No. 1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Appalachian No. 2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Indiana, Illinois, Kentucky, etc.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Minnesota, Wisconsin, etc.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Oklahoma, Kansas, etc.	1	2	1	1	1	2	2	1	1	-----	2	2	16
Texas Inland	253	220	243	259	227	242	210	182	190	163	180	186	2,555
Texas Gulf Coast	36	29	33	32	27	29	29	27	31	34	28	33	368
Louisiana Gulf Coast	192	215	108	237	290	171	261	265	177	153	225	214	2,508
Arkansas, Louisiana Inland, etc.	284	259	316	291	292	300	269	245	242	318	332	343	3,491

New Mexico	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Rocky Mountain	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
West Coast	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	766	725	701	820	837	744	771	720	641	668	767	778	8,938
Grand total													
1966	152,462	133,838	146,316	140,130	147,704	146,840	155,996	157,194	151,287	155,528	149,292	156,051	1,792,638
1965	145,581	130,508	139,667	133,425	137,863	141,603	148,519	150,393	140,533	142,419	142,490	151,400	1,704,401

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Table 41.—Consumption, production, and distribution of motor gasoline in 1966 [1] by PAD districts

(Million barrels)

	PAD districts					
	I	II	III	IV	V	Total
Consumption [2]	605.6	617.8	222.9	50.4	257.0	1,753.7
Supply:						
Production [3]	228.1	556.4	675.7	62.8	228.4	1,751.4
Imports	11.2	----	----	----	4.4	15.6
Received from other districts:						
From I	----	28.6	.2	----	----	----
From II	6.6	----	17.4	.1	----	----
From III	386.1	62.4	----	3.6	15.9	----
From IV	----	3.5	----	----	11.4	----
From V	.2	----	----	2.1	----	----
Total receipts	392.9	94.5	17.6	5.8	27.3	----
Total supply	632.2	650.9	693.3	68.6	260.1	1,767.0
Stock change	+3.9	+5.2	+3.0	+.6	−1.0	+11.7
Shipped to other districts	28.8	24.1	468.0	14.9	2.3	----
Exports	----	----	.1	----	.3	.4
Domestic demand	599.5	621.6	222.2	53.1	258.5	1,754.9
Difference between consumption and demand	+6.1	−3.8	+.7	−2.7	−1.5	−1.2

[1] Apparent distribution of motor gasoline, by districts, is based on pipeline, tidewater, and river shipments compiled by the Bureau of Mines, and estimate of annual interdistrict railroad ship-shipments was computed from 1963 data compiled by the Bureau of Transport Economics, Interstate Commerce Commission, and records compiled by the San Francisco office of the Bureau of Mines. Information on shipments moving from PAD district 2 by way of the Great Lakes and the Ohio River to PAD district 1 were compiled from data supplied by the U.S. Army Corps of Engineers.

[2] Compiled from data supplied by the American Petroleum Institute.

[3] Includes motor gasoline produced at natural gas processing plants.

Table 42.—Production (refinery output) and consumption of gasoline (excluding naphtha) in the United States, by States

(Thousand barrels)

State	1964		1965		1966 P	
	Production	Consumption [1]	Production	Consumption [1]	Production	Consumption [1]
Alabama	(2)	28,374	(2)	29,613	(2)	31,138
Alaska	--------	1,757	--------	1,898	--------	1,967
Arizona	--------	14,948	--------	15,356	--------	16,202
Arkansas	12,895	17,616	13,572	18,423	13,067	19,057
California	[3] 219,843	173,160	[3] 232,072	177,909	[3] 236,897	185,251
Colorado	5,867	18,921	6,302	19,570	6,533	20,363
Connecticut	--------	22,117	--------	23,061	--------	24,062
Delaware	(4)	5,502	(4)	5,503	(4)	5,518
District of Columbia	--------	5,244	--------	5,433	--------	5,518
Florida	--------	52,729	--------	55,342	--------	58,625
Georgia	(5)	37,923	(5)	40,104	(5)	42,681
Hawaii	(3)	4,414	(3)	4,713	(3)	4,792
Idaho	--------	7,461	--------	7,747	--------	7,988
Illinois	117,746	84,671	118,032	87,796	129,538	91,999
Indiana	78,268	47,355	81,841	49,376	85,371	51,471
Iowa	--------	30,467	--------	31,237	--------	33,092
Kansas	66,088	26,827	68,158	26,754	73,915	27,198
Kentucky	[6] 17,524	25,409	[6] 18,401	26,601	[6] 19,592	27,777
Louisiana	[2] 167,444	26,868	[2] 172,849	28,615	[2] 179,984	29,899
Maine	--------	8,902	--------	9,232	--------	9,540
Maryland	(5)	26,467	(5)	27,537	(5)	29,363
Massachusetts	[4] 23,198	38,899	[4] 22,174	40,358	[4] 23,651	41,539
Michigan	24,989	75,394	25,486	79,494	27,782	83,649
Minnesota	15,027	35,216	15,362	36,227	17,210	38,103
Mississippi	(2)	18,513	(2)	18,976	(2)	20,227
Missouri	[7] 14,206	45,182	[7] 13,131	46,579	[7] 15,225	48,230
Montana	15,304	8,631	15,603	9,349	17,014	9,350
Nebraska	(7)	16,549	(7)	16,873	(7)	17,629
Nevada	--------	5,413	--------	5,813	--------	6,089
New Hampshire	--------	5,609	--------	5,873	--------	6,298
New Jersey	77,958	54,316	74,003	56,452	82,070	57,963
New Mexico	6,770	10,953	7,069	11,214	7,620	11,507
New York	14,056	123,252	12,849	122,829	10,431	127,346
North Carolina	--------	42,554	--------	44,119	--------	46,290
North Dakota	[8] 12,428	8,316	[8] 12,982	8,458	[8] 13,600	8,419
Ohio	86,754	85,539	92,765	88,453	94,199	92,140
Oklahoma	78,062	28,706	78,712	30,176	85,705	31,726
Oregon	--------	19,056	--------	20,044	--------	20,975
Pennsylvania	99,647	84,269	101,585	87,167	106,447	89,436
Rhode Island	(4)	6,415	(4)	6,677	(4)	6,949
South Carolina	(5)	20,345	(5)	21,481	(5)	22,846
South Dakota	--------	9,117	--------	9,437	--------	9,362
Tennessee	(6)	32,596	(6)	33,741	(6)	35,955
Texas	452,783	122,243	465,567	127,904	489,937	137,446
Utah	17,650	10,047	19,174	10,744	20,493	11,159
Vermont	--------	3,590	--------	3,803	--------	4,048
Virginia	[5] 6,482	36,127	[5] 6,887	38,105	[5] 7,220	40,063
Washington	(3)	28,686	(3)	29,351	(3)	30,105
West Virginia	555	12,407	642	12,968	601	13,658
Wisconsin	(8)	35,726	(8)	37,002	(8)	38,556
Wyoming	17,856	4,800	18,523	4,850	19,598	4,958
Total	1,649,400	1,695,598	1,693,741	1,756,337	1,783,700	1,835,522

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[1] American Petroleum Institute.

[2] Alabama and Mississippi included with Louisiana.

[3] Washington and Hawaii included with California.

[4] Delaware and Rhode Island included with Massachusetts.

[5] Maryland, South Carolina, and Georgia included with Virginia.

[6] Tennessee included with Kentucky.

[7] Nebraska included with Missouri.

[8] Wisconsin included with North Dakota.

Table 43.—Stocks of gasoline in the United States in 1966, by districts and months

(Thousand barrels)

	Jan. 31	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31
Motor gasoline:												
East Coast	49,410	49,267	49,018	48,746	51,202	47,768	46,216	45,605	45,305	46,493	46,114	47,944
Appalachian No. 1	5,157	5,137	5,233	5,073	5,073	4,676	4,755	4,549	4,724	5,083	4,846	5,057
Appalachian No. 2	3,320	3,577	3,541	3,608	3,346	3,113	3,251	3,123	3,143	3,249	3,176	3,267
Indiana, Illinois, Kentucky, etc.	33,293	35,975	37,492	35,079	32,089	28,711	28,365	27,758	28,051	29,371	29,498	32,135
Minnesota, Wisconsin, North Dakota and South Dakota	7,442	7,654	7,741	7,014	7,433	6,887	6,990	6,012	5,902	5,937	6,572	6,904
Oklahoma, Kansas, etc.	17,867	18,904	19,303	18,851	18,289	15,629	15,748	15,012	15,697	15,561	16,034	17,407
Texas Inland	8,500	9,004	8,215	7,887	6,771	6,027	6,112	6,427	6,213	6,703	7,241	7,918
Texas Gulf	23,215	23,390	23,735	23,130	21,842	20,178	19,923	19,130	18,953	19,072	20,417	20,834
Louisiana Gulf Coast	11,249	10,665	10,811	10,456	11,874	11,793	11,512	11,974	12,424	12,418	12,213	10,977
Arkansas, Louisiana Inland, etc.	7,363	8,810	7,899	7,944	6,920	5,904	6,456	5,723	6,854	8,299	8,272	8,195
New Mexico	927	865	847	692	676	660	759	686	610	665	741	763
Rocky Mountain	6,824	7,702	8,161	7,754	7,389	6,535	5,449	4,512	4,434	4,798	5,136	6,286
West Coast	20,417	22,138	23,037	22,746	22,651	20,780	20,808	19,333	19,996	20,142	19,927	18,706
Total	194,984	203,088	205,033	198,980	195,555	178,661	176,344	169,844	172,351	177,791	180,187	186,393
Aviation gasoline:												
East Coast	1,457	1,264	1,248	1,329	1,513	1,277	1,365	1,438	1,414	1,139	1,123	1,280
Appalachian No. 1	131	118	119	128	113	100	103	108	90	100	88	100
Appalachian No. 2	24	20	20	24	18	18	22	25	36	30	27	35
Indiana, Illinois, Kentucky, etc.	1,171	1,390	1,343	1,169	1,190	1,022	1,029	979	1,056	1,097	1,088	1,133
Minnesota, Wisconsin, North Dakota and South Dakota	162	147	128	88	90	101	76	120	130	178	203	175
Oklahoma, Kansas, etc.	365	349	340	332	296	305	356	263	352	329	410	421
Texas Inland	566	613	568	544	547	428	433	429	437	456	487	520
Texas Gulf	1,662	1,833	1,927	1,765	1,338	1,169	1,217	1,390	1,394	1,437	1,264	1,603
Louisiana Gulf Coast	1,538	1,844	1,761	1,903	1,595	1,384	1,160	1,273	1,168	1,270	1,171	1,199
Arkansas, Louisiana Inland, etc.	-----	1	-----	107	39	63	-----	63	82	89	50	25
New Mexico	46	39	37	37	48	43	44	24	25	31	15	34
Rocky Mountain	154	154	147	163	173	140	133	132	126	145	121	141
West Coast	1,219	1,327	1,530	1,376	1,106	1,158	1,018	940	1,015	1,109	1,007	1,118
Total	8,495	9,099	9,168	8,965	8,066	7,208	6,956	7,184	7,325	7,410	7,054	7,784
Total motor and aviation stocks:[1]												
East Coast	50,867	50,531	50,266	50,075	52,715	49,045	47,581	47,043	46,764	47,632	47,237	49,224
Appalachian No. 1	5,288	5,255	5,352	5,201	5,186	4,776	4,858	4,657	4,814	5,183	4,934	5,157
Appalachian No. 2	3,344	3,597	3,561	3,632	3,364	3,131	3,273	3,148	3,179	3,279	3,203	3,302
Indiana, Illinois, Kentucky, etc.	34,464	37,365	38,835	36,248	33,279	29,733	29,394	28,737	29,107	30,468	30,586	33,268
Minnesota, Wisconsin, North Dakota and South Dakota	7,604	7,801	7,869	7,102	7,523	6,988	7,066	6,132	6,032	6,115	6,775	7,079
Oklahoma, Kansas, etc.	18,232	19,253	19,643	19,183	18,585	15,934	16,104	15,275	16,049	15,890	16,444	17,828
Texas Inland	9,066	9,617	8,783	8,431	7,318	6,455	6,545	6,856	6,650	7,159	7,728	8,438
Texas Gulf	24,877	25,223	25,662	24,895	23,180	21,347	21,140	20,520	20,347	20,509	21,681	22,437
Louisiana Gulf Coast	12,787	12,509	12,572	12,359	13,469	13,177	12,672	13,247	13,592	13,688	13,384	12,176
Arkansas, Louisiana Inland, etc.	7,363	8,811	7,899	8,051	6,959	5,967	6,456	5,786	6,936	8,388	8,322	8,220

New Mexico	973	904	884	729	724	703	803	710	635	696	756	79
Rocky Mountain	6,978	7,856	8,308	7,917	7,562	6,675	5,582	4,644	4,560	4,943	5,257	6,427
West Coast	21,636	23,465	24,567	24,122	23,757	21,938	21,826	20,273	21,011	21,251	20,934	19,824
Grand total:												
1966:	203,479	212,187	214,201	207,945	203,621	185,869	183,300	177,028	179,676	185,201	187,241	194,177
1965:	213,925	225,043	224,911	217,353	205,611	192,563	185,087	181,790	180,270	176,608	179,247	183,058

[1] Includes stocks of gasoline at refineries, bulk terminals and pipelines.

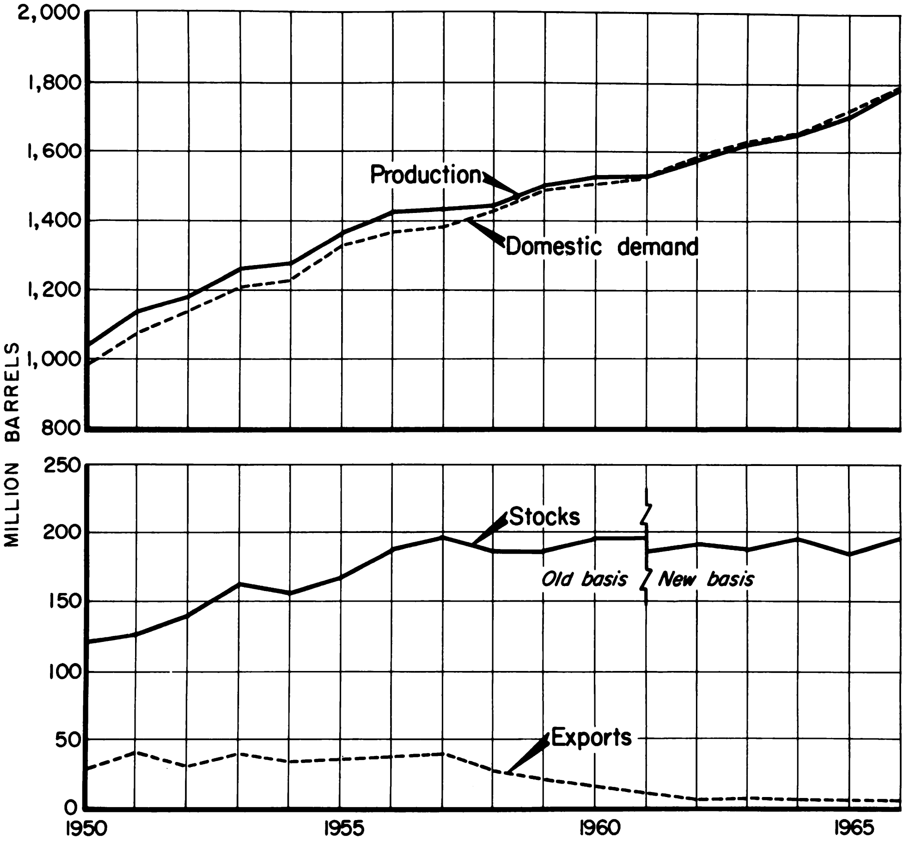

Figure 7.—Production, domestic demand, exports and stocks of gasoline in the United States, 1950–66.

Table 44.—Shipments of aviation fuels

(Thousand barrels)

Product and use	Shipments to PAD districts: I	II	III	IV	V	United States total
1965:						
Aviation gasoline:						
For commercial use:						
Airlines	5,188	3,904	1,235	474	1,173	11,974
Factory	63	66	55	8	37	229
General Aviation	1,873	2,048	1,501	287	1,531	7,240
Total	7,124	6,018	2,791	769	2,741	19,443
For military use	4,781	2,407	7,405	689	6,657	21,939
Jet fuel:						
For commercial use:						
Airlines	39,850	21,034	8,264	3,322	30,515	102,985
Factory	1,196	412	74	30	331	2,043
General Aviation	847	994	1,554	216	741	4,352
Total	41,893	22,440	9,892	3,568	31,587	109,380
For military use: [1]						
JP–4	17,657	23,007	15,067	2,966	26,060	84,757
JP–5	4,310	162	3,358	-----	5,498	13,328
Other	205	116	53	2	505	881
Total	22,172	23,285	18,478	2,968	32,063	98,966
1966:						
Aviation gasoline:						
For commercial use:						
Airlines	3,770	3,217	1,037	383	1,167	9,574
Factory	76	60	92	-----	20	248
General aviation	2,066	2,289	1,464	349	1,616	7,784
Total	5,912	5,566	2,593	732	2,803	17,606
For military use	3,415	2,213	6,500	506	5,849	18,483
Jet fuel:						
For commercial use:						
Airlines	48,830	25,436	9,997	4,023	36,921	125,207
Factory	1,143	523	127	-----	663	2,456
General aviation	1,246	897	1,355	70	567	4,135
Total	51,219	26,856	11,479	4,093	38,151	131,798
For military use: [2]						
JP–4	16,258	19,038	18,248	1,801	29,730	85,075
JP–5	1,491	321	7,450	-----	4,907	14,169
Other	131	192	99	1	613	1,036
Total	17,880	19,551	25,797	1,802	35,250	100,280

[1] Does not include 11,973,000 barrels imported directly by the military in PAD District I, and 2,160,000 barrels in PAD District V.

[2] Does not include 8,028,000 barrels imported directly by the military in PAD District I, and 1,926,000 barrels in PAD District V.

Definitions of terms used in this table.

1. Aviation gasoline–Any fuel in the gasoline boiling range for use in a piston-type aviation engine.
2. Jet fuel–Any fuel for use in an aviation turbine engine.
3. Airline–Sales to U.S. certificated air carriers, including air freight carriers, international air carriers (if delivery is made in the U.S.), and to such other air carriers as supplemental or non-schedule carriers, air taxi, etc.
4. Factory–Direct sales to airframe and engine manufacturers.
5. General aviation–Primarily sales to distributors and airport dealers.
6. Military–Sales to Defense Fuel Supply Center and to other military agencies of the Government.

Table 45.—Salient statistics of kerosine in the United States, by months and refinery districts

Thousand barrels)

Month and district	1965							1966 p						
	Production at refineries	Yield (percent)	Production at natural gasoline plants	Imports	Exports	Stocks (end of period)	Domestic demand	Production at refineries	Yield (percent)	Production at natural gasoline plants	Imports	Exports	Stocks (end of period)	Domestic demand
Month:														
January	9,543	3.4	122	-----	7	24,029	12,954	10,128	3.4	124	27	28	20,209	14,122
February	8,516	3.3	166	-----	11	20,744	11,956	9,604	3.6	147	-----	15	17,866	12,079
March	8,299	3.0	141	-----	8	18,127	11,049	9,418	3.3	80	-----	30	18,676	8,658
April	6,825	2.6	91	-----	66	18,693	6,284	6,910	2.6	109	-----	22	19,565	6,108
May	6,515	2.4	121	-----	33	20,995	4,301	7,375	2.5	70	130	30	21,259	5,851
June	6,983	2.5	52	-----	10	23,448	4,572	7,107	2.5	78	-----	28	23,542	4,874
July	6,665	2.3	76	-----	13	25,304	4,872	8,024	2.6	102	-----	14	27,092	4,562
August	6,514	2.2	95	7	23	25,993	5,904	8,928	2.9	115	-----	9	30,253	5,873
September	6,787	2.5	108	-----	15	26,899	5,974	7,603	2.6	61	-----	29	30,428	7,460
October	8,002	2.9	80	-----	16	27,290	7,675	7,709	2.6	108	62	19	30,434	7,854
November	8,231	3.0	98	28	9	26,252	9,386	8,090	2.8	67	-----	16	27,915	10,660
December	10,269	3.5	156	65	8	24,080	12,654	9,953	3.3	165	-----	16	25,004	13,013
Total	93,149	2.8	1,306	100	219	24,080	97,581	100,849	2.9	1,226	219	256	25,004	101,114
District:														
East Coast	9,106	2.1	-----	92	54	10,151	NA	11,749	2.5	-----	219	100	10,441	NA
Appalachian No. 1	1,150	2.8	-----			693		1,255	2.9	-----			640	
Appalachian No. 2	745	2.0	-----			363		643	2.1	-----			265	
Indiana, Illinois, Kentucky, etc.	17,731	3.0	-----	-----	10	4,880		18,021	2.8	-----	-----	25	4,733	
Minnesota, Wisconsin, etc.	2,022	3.6	-----			1,105		2,317	3.9	-----			1,013	
Oklahoma, Kansas, etc.	3,262	1.2	-----			989		3,365	1.2	-----			1,129	
Texas Inland	1,526	1.3	288			233		1,546	1.2	263			333	
Texas Gulf Coast	39,668	5.2	72			2,506		44,344	5.7	59			2,834	
Louisiana Gulf Coast	12,899	3.9	449			1,517		12,678	3.6	392			1,899	
Arkansas, Louisiana Inland, etc.	1,896	4.0	466	7	106	1,076		1,738	3.6	482	-----	60	933	
New Mexico	189	1.6	31			56		173	1.4	30			64	
Rocky Mountain	2,509	2.1	-----	-----	-----	298		2,542	2.0	-----	-----	-----	477	
West Coast	446	0.1	-----	1	49	213		478	0.1	-----	-----	71	243	
Total	93,149	2.8	1,306	100	219	24,080	97,581	100,849	2.9	1,226	219	256	25,004	101,114

p Preliminary. NA Not available.

Table 46.—Consumption of kerosine in the United States, by PAD districts, States, and uses [1]

(Thousand barrels)

District and State	Range oil		Tractor fuel		All other uses		Total	
	1965	1966	1965	1966	1965	1966	1965	1966
District 1:								
Connecticut	1,189	879	-----	-----	120	153	1,309	1,032
Delaware	692	862	-----	-----	134	81	826	943
District of Columbia	87	41	-----	-----	17	25	104	66
Florida	3,210	3,778	72	121	1,170	1,619	4,452	5,518
Georgia	730	764	87	59	481	563	1,298	1,386
Maine	1,798	1,821	3	-----	252	172	2,053	1,993
Maryland	2,273	2,603	7	-----	93	204	2,373	2,807
Massachusetts	2,994	2,413	6	-----	498	445	3,498	2,858
New Hampshire	737	716	-----	-----	22	51	759	767
New Jersey	1,708	1,876	7	2	382	426	2,097	2,304
New York	4,830	5,023	17	19	780	922	5,627	5,964
North Carolina	10,976	12,491	61	38	1,689	1,930	12,726	14,459
Pennsylvania	3,130	3,754	18	19	706	611	3,854	4,384
Rhode Island	604	746	-----	-----	62	72	666	818
South Carolina	2,795	3,155	11	28	493	544	3,299	3,727
Vermont	746	701	7	-----	8	30	761	731
Virginia	5,057	5,972	37	53	454	965	5,548	6,990
West Virginia	203	265	2	-----	48	66	253	331
Total	43,759	47,860	335	339	7,409	8,879	51,503	57,078
District 2:								
Illinois	4,384	3,190	27	44	930	916	5,341	4,150
Indiana	2,813	2,628	7	-----	626	412	3,446	3,040
Iowa	1,382	887	16	15	126	352	1,524	1,254
Kansas	1,677	726	18	14	119	198	1,814	938
Kentucky	2,231	2,598	-----	-----	146	453	2,377	3,051
Michigan	4,679	3,652	55	-----	1,150	925	5,884	4,577
Minnesota	2,071	2,517	21	37	223	330	2,315	2,884
Missouri	1,037	845	34	59	92	122	1,163	1,026
Nebraska	645	488	21	66	125	164	791	718
North Dakota	40	59	-----	-----	12	22	52	81
Ohio	5,479	5,127	21	7	832	751	6,332	5,885
Oklahoma	850	847	7	-----	89	135	946	982
South Dakota	524	335	21	-----	18	31	563	366
Tennessee	1,426	1,841	4	29	1,112	1,368	2,542	3,238
Wisconsin	1,169	1,179	4	7	77	125	1,250	1,311
Total	30,407	26,919	256	278	5,677	6,304	36,340	33,501
District 3:								
Alabama	619	453	71	90	219	293	909	836
Arkansas	214	174	54	52	118	128	386	354
Louisiana	461	429	74	89	269	329	804	847
Mississippi	141	49	9	7	196	234	346	290
New Mexico	195	171	6	-----	175	109	376	280
Texas	895	1,040	101	52	2,465	2,293	3,461	3,385
Total	2,525	2,316	315	290	3,442	3,386	6,282	5,992
District 4:								
Colorado	947	977	29	-----	133	267	1,109	1,244
Idaho	500	439	11	-----	10	56	521	495
Montana	227	79	-----	-----	21	38	248	117
Utah	403	455	33	39	38	128	474	622
Wyoming	179	389	17	-----	10	78	206	467
Total	2,256	2,339	90	39	212	567	2,558	2,945
District 5:								
Alaska	10	8	-----	-----	-----	-----	10	8
Arizona	12	14	-----	-----	19	23	31	37
California	158	148	-----	-----	660	713	818	861
Hawaii	39	34	-----	-----	10	3	49	37
Nevada	1	4	-----	-----	4	-----	5	4
Oregon	10	14	-----	-----	9	7	19	21
Washington	11	18	-----	-----	23	12	34	30
Total	241	240	-----	-----	725	758	966	998
Total United States	79,188	79,674	996	946	17,465	19,894	97,649	100,514

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[1] Excludes kerosine type jet fuel.

Table 47.—Consumption of distillate fuel oil[1] in the United States, by uses

(Thousand barrels)

Use	1962	1963	1964	1965	1966
Heating oils	450,031	449,159	436,204	456,928	455,177
Range oil (No. 1 fuel oil)	16,799	16,156	15,656	19,064	17,601
Industrial (excluding oil company)	34,951	36,647	36,007	42,484	47,108
Oil company (excluding heating oil)	9,055	10,253	10,576	10,430	10,485
Gas and electric public utility powerplants	4,100	4,149	3,849	3,661	3,612
Railroads	86,803	88,117	88,198	86,436	89,104
Bunkering of vessels (including company tankers but excluding military)	15,836	15,148	16,001	15,532	16,642
Military (U.S. Army, Navy, Air Force, and Marine Corps)	13,041	13,436	13,609	14,953	16,303
Miscellaneous uses:					
Diesel fuel	89,729	106,341	117,534	124,122	135,776
Other light distillates	8,750	8,718	9,917	13,281	17,905
Total	729,095	748,124	747,551	786,891	809,713

[1] Includes diesel fuel.

Table 48.—Salient statistics of distillate fuel oil in the United States, by months and refinery districts

(Thousand barrels unless otherwise stated)

Month and district	1965								1966 p							
	Production at refineries	Yield (percent)	Production at natural gasoline plants	Crude used directly as distillate[1]	Imports	Exports	Stocks (end of period)	Domestic demand	Production at refineries	Yield (percent)	Production at natural gasoline plants	Crude used directly as distillate[1]	Imports	Exports	Stocks (end of period)	Domestic demand
Month:																
January	66,765	23.6	33	65	1,094	370	130,619	92,814	70,042	23.6	25	62	1,054	447	130,041	96,102
February	60,930	23.8	30	65	797	263	105,282	86,896	62,696	23.7	91	60	564	1,022	104,042	88,388
March	62,188	22.6	41	89	1,439	603	84,571	83,865	64,577	22.7	102	66	750	299	92,761	76,477
April	58,544	22.4	32	63	827	272	82,754	61,011	60,282	22.1	93	62	1,424	284	91,004	63,334
May	61,453	22.4	27	56	1,239	315	99,394	45,820	63,739	22.1	93	59	1,194	348	102,513	53,228
June	58,692	21.4	23	61	470	228	116,559	41,853	61,979	21.7	102	64	1,784	283	117,654	48,505
July	65,497	22.4	35	61	938	245	138,535	44,310	67,201	22.1	99	63	1,062	301	142,467	43,311
August	66,370	22.7	33	66	1,591	279	158,377	47,939	69,074	22.6	110	65	1,019	343	161,065	51,327
September	62,744	22.9	28	63	1,061	498	171,973	49,802	65,765	22.5	92	62	1,128	354	177,363	50,395
October	65,652	23.4	27	63	1,340	146	181,988	56,921	66,460	22.3	96	60	1,372	175	186,576	58,600
November	66,112	23.7	26	59	1,063	291	177,278	71,679	63,087	22.1	117	65	909	279	175,805	74,670
December	70,124	24.0	24	62	1,143	320	155,407	92,904	69,815	23.0	112	64	1,585	383	154,096	92,902
Total	765,071	23.0	359	773	13,002	3,830	155,407	775,814	784,717	22.5	1,132	752	13,845	4,518	154,096	797,239
District:																
East Coast	115,748	26.4	------	------	11,041	41	59,781		122,456	26.2	------	------	12,548	90	60,220	
Appalachian No. 1	9,787	23.7	------				3,632		10,587	24.5	------				3,614	
Appalachian No. 2	7,482	19.7	------				1,609		5,837	19.4	------				1,479	
Indiana, Illinois, Kentucky, etc.	126,421	21.3	------	481	17	116	23,233		128,908	20.5	------	480	107	190	21,909	
Minnesota, Wisconsin, etc.	13,313	23.9	------				7,931		14,467	24.5	------				7,369	
Oklahoma, Kansas, etc.	68,315	24.6	1				11,799		72,129	24.1	------				13,206	
Texas Inland	18,830	16.0	168				1,890	NA	20,923	16.8	195				2,328	NA
Texas Gulf Coast	207,274	27.5	23				15,997		203,001	25.9	22				17,035	
Louisiana Gulf Coast	82,164	25.0	------	216	1,811	597	6,701		91,531	26.3	29	200	967	2,719	7,509	
Arkansas, Louisiana Inland, etc.	10,575	22.4	167				4,220		11,597	24.5	886				2,676	
New Mexico	2,006	17.4	------				270		2,175	17.7	------				258	
Rocky Mountain	26,906	22.4	------	76	------	14	2,906		28,354	22.9	------	72	------	19	3,174	
West Coast	76,250	15.1	------	------	133	3,062	15,438		72,752	14.1	------	------	223	1,500	13,319	
Total	765,071	23.0	359	773	13,002	3,830	155,407	775,814	784,717	22.5	1,132	752	13,845	4,518	154,096	797,239

p Preliminary. NA Not available.

[1] Figures represent crude oil used as fuel on pipelines, which is considered part of the demand for distillate.

Table 49.—Consumption of distillate fuel oil [1] in the United States by PAD districts and States

(Thousand barrels)

District and State	1962	1963	1964	1965	1966
District 1:					
Connecticut	23,099	22,906	20,378	21,415	20,408
Delaware	3,097	3,474	3,257	3,361	3,381
District of Columbia	2,878	2,872	2,957	3,566	3,489
Florida	10,611	10,902	11,076	12,456	14,179
Georgia	6,218	6,969	6,977	8,666	10,059
Maine	8,645	9,487	8,792	9,424	9,038
Maryland	15,146	16,014	16,863	17,361	18,016
Massachusetts	53,448	51,664	49,966	56,694	51,262
New Hampshire	5,834	6,327	5,742	5,907	6,073
New Jersey	48,622	51,466	51,665	54,123	57,123
New York	94,501	95,856	94,610	104,690	102,827
North Carolina	15,617	16,000	16,249	17,428	20,869
Pennsylvania	49,315	51,702	50,699	54,818	54,501
Rhode Island	7,411	7,391	6,272	7,017	6,627
South Carolina	5,776	6,169	5,228	4,910	6,541
Vermont	3,602	3,787	3,603	4,318	4,825
Virginia	15,843	16,945	16,542	18,941	21,304
West Virginia	2,490	2,622	2,320	2,882	3,177
Total	372,153	382,553	373,186	407,977	413,699
District 2:					
Illinois	41,361	41,421	41,580	41,702	39,831
Indiana	25,743	25,934	25,813	26,340	26,338
Iowa	11,022	11,106	10,968	11,256	12,579
Kansas	5,242	5,612	5,487	5,405	6,310
Kentucky	5,822	5,532	5,697	5,659	7,068
Michigan	31,131	30,471	29,576	31,079	32,127
Minnesota	16,776	16,629	16,739	19,227	21,195
Missouri	13,412	13,939	13,884	14,077	13,908
Nebraska	4,099	4,387	4,689	3,789	4,590
North Dakota	4,472	4,584	4,529	5,252	6,008
Ohio	24,250	26,348	27,121	28,132	31,216
Oklahoma	3,243	3,729	3,325	2,950	3,618
South Dakota	3,212	3,370	3,823	3,838	4,130
Tennessee	6,167	6,706	6,784	7,414	9,404
Wisconsin	23,399	23,461	23,328	23,902	24,446
Total	219,351	223,229	223,343	230,022	242,768
District 3:					
Alabama	4,938	5,148	5,887	5,335	5,239
Arkansas	2,451	2,579	3,357	2,899	3,259
Louisiana	9,622	9,762	9,688	8,517	9,284
Mississippi	2,715	2,885	3,322	2,841	3,169
New Mexico	3,512	3,642	3,946	3,971	3,647
Texas	23,959	24,092	23,998	25,280	23,311
Total	47,197	48,108	50,199	48,843	47,909
District 4:					
Colorado	4,148	4,580	4,074	4,002	4,670
Idaho	4,204	4,108	4,501	4,880	4,916
Montana	5,522	5,400	5,684	5,041	5,802
Utah	3,607	3,640	3,766	4,275	4,886
Wyoming	3,838	3,816	3,653	3,743	3,038
Total	21,319	21,544	21,678	21,941	23,312
District 5:					
Alaska	2,897	3,076	3,482	3,733	4,049
Arizona	3,001	3,520	3,528	3,584	4,030
California	29,685	32,256	34,991	35,672	38,335
Hawaii	1,641	1,375	1,769	1,613	1,369
Nevada	3,017	2,844	3,523	2,821	2,495
Oregon	11,777	12,828	13,855	13,295	13,837
Washington	17,057	16,791	17,997	17,390	17,910
Total	69,075	72,690	79,145	78,108	82,025
Total United States	729,095	748,124	747,551	786,891	809,713

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[1] Includes diesel fuel oil.

Table 50.—Consumption of residual fuel oil [1] in the United States, by uses

(Thousand barrels)

Use	1962	1963	1964	1965	1966
Heating oils	125,164	125,248	126,215	156,254	167,471
Industrial (excluding oil company fuel)	156,221	149,269	157,176	140,602	141,050
Oil-company use (excluding heating oil)	45,978	46,976	43,098	34,354	35,177
Gas and electric public utility powerplants	88,261	91,615	97,595	114,884	140,642
Railroads	5,501	5,342	5,350	4,001	3,792
Bunkering of vessels (including company tankers but excluding military)	84,415	76,502	83,024	73,639	73,641
Military use (U.S. Army, Navy, Air Force, and Marine Corps)	35,667	36,444	35,568	40,380	41,861
Miscellaneous uses	7,226	7,126	8,606	10,004	10,338
Total	548,433	538,522	556,632	574,118	613,972

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[1] Includes Navy grade and crude oil burned as fuel.

Table 51.—Salient statistics of residual fuel oil in the United States, by months and refinery districts

(Thousand barrels unless otherwise stated)

Month and district	1965 Production	1965 Yield (Percent)	1965 Crude used directly as residual [1]	1965 Imports	1965 Exports	1965 Stocks (end of period)	1965 Domestic demand	1966 p Production	1966 p Yield (Percent)	1966 p Crude used directly as residual [1]	1966 p Imports	1966 p Exports	1966 p Stocks (end of period)	1966 p Domestic demand
Month:														
January	25,300	9.0	640	38,726	1,494	38,285	65,290	26,305	8.9	266	37,807	1,083	53,627	65,882
February	22,396	8.7	496	34,225	1,661	35,711	58,030	22,185	8.4	288	37,269	1,075	47,634	64,660
March	24,657	9.0	258	34,738	1,621	34,362	59,381	23,792	8.2	309	42,763	1,854	46,751	65,893
April	22,009	8.4	273	34,071	1,371	34,476	54,868	20,501	7.5	292	28,650	842	46,231	49,121
May	21,266	7.8	244	24,921	931	40,062	39,914	20,521	7.1	321	26,722	1,123	49,456	43,216
June	20,923	7.6	291	23,841	1,037	45,246	38,834	19,565	6.8	305	27,849	1,071	51,703	44,401
July	21,635	7.4	302	22,126	1,267	50,209	37,833	21,621	7.1	292	27,137	888	56,862	43,003
August	21,112	7.2	232	20,400	1,330	53,850	36,773	20,896	6.8	316	27,440	890	59,570	45,054
September	19,464	7.1	358	19,963	993	53,138	37,504	20,372	7.0	248	24,977	1,438	61,640	42,089
October	22,365	8.0	267	27,551	1,141	58,350	45,830	21,197	7.1	272	28,912	785	63,951	47,285
November	22,847	8.2	293	26,093	1,014	59,736	46,833	21,741	7.6	286	31,105	684	63,538	52,961
December	24,593	8.4	296	38,532	1,022	56,214	65,921	25,265	8.3	356	36,064	1,146	61,196	62,881
Total	268,567	8.0	3,950	345,187	14,882	56,214	587,011	263,961	7.6	3,551	376,795	12,879	61,196	626,446
District:														
East Coast	32,069	7.3	22	318,634	197	11,665	NA	35,132	7.5	-----	357,907	34	14,659	NA
Appalachian No. 1	3,713	9.0				398		4,314	10.0				496	
Appalachian No. 2	3,166	8.3				112		2,262	7.6				107	
Indiana, Illinois, Kentucky, etc.	48,391	8.1	576	1,188	67	7,649		42,571	6.8	585	860	158	6,160	
Minnesota, Wisconsin, etc.	6,749	12.1				703		5,616	9.5				835	
Oklahoma, Kansas, etc.	3,519	1.3				1,094		3,941	1.4				1,177	
Texas Inland	4,109	3.5	1,772	14,598	2,293	2,312		4,867	3.9	1,813	11,708	3,056	2,247	
Texas Gulf Coast	35,481	4.7				4,750		35,815	4.6				6,053	
Louisiana Gulf Coast	14,072	4.3				1,894		11,652	3.4				1,494	
Arkansas, Louisiana Inland, etc.	2,748	5.8				190		1,800	3.8				135	
New Mexico	360	3.1				17		347	2.8				18	
Rocky Mountain	11,593	9.6	258	43	9	1,061		10,687	8.6	253	55	5	804	
West Coast	102,597	20.3	1,322	10,724	12,316	24,369		104,957	20.4	900	6,265	9,626	27,011	
Total	268,567	8.0	3,950	345,187	14,882	56,214	587,011	263,961	7.6	3,551	376,795	12,879	61,196	626,446

p Preliminary. NA Not available.

[1] Represents crude oil used as fuel on leases and for general industrial purposes.

Table 52.—Consumption of residual fuel oil [1] in the United States, by PAD districts and States

(Thousand barrels)

District and State	1962	1963	1964	1965	1966
District 1:					
Connecticut	16,019	16,260	19,848	16,776	20,283
Delaware	4,775	4,707	4,473	5,317	5,293
District of Columbia	2,243	2,533	3,914	6,504	6,783
Florida	37,044	36,668	39,425	43,093	41,884
Georgia	5,285	5,663	7,049	8,106	7,295
Maine	5,985	5,332	7,546	6,442	8,077
Maryland	13,751	13,270	14,444	15,140	16,178
Massachusetts	41,852	37,693	43,320	53,294	60,234
New Hampshire	2,545	2,524	2,588	2,408	3,911
New Jersey	50,422	50,539	50,135	42,445	50,461
New York	89,667	88,606	84,596	102,974	115,903
North Carolina	3,725	3,318	3,781	4,583	5,106
Pennsylvania	41,422	42,245	43,636	42,430	47,160
Rhode Island	8,274	8,177	8,218	6,186	6,204
South Carolina	5,908	5,833	5,050	3,762	3,971
Vermont	629	607	413	937	1,048
Virginia	13,225	14,055	15,516	16,179	14,797
West Virginia	1,480	1,572	2,297	2,087	2,527
Total	344,251	339,602	356,249	378,663	417,115
District 2:					
Illinois	24,756	25,582	21,411	22,220	21,151
Indiana	10,736	10,756	11,464	12,601	11,729
Iowa	873	931	1,034	513	866
Kansas	1,533	1,565	1,127	1,052	1,021
Kentucky	389	460	559	576	696
Michigan	9,275	9,746	8,905	8,011	7,634
Minnesota	6,307	6,102	5,671	4,827	4,740
Missouri	2,131	2,335	2,400	3,252	2,623
Nebraska	626	1,133	958	310	382
North Dakota	524	553	678	834	685
Ohio	8,227	7,790	9,233	10,558	7,984
Oklahoma	967	797	825	795	637
South Dakota	152	245	106	48	67
Tennessee	105	275	287	276	331
Wisconsin	3,813	4,110	4,145	3,086	3,015
Total	70,414	72,380	68,803	68,959	63,561
District 3:					
Alabama	2,749	3,184	2,274	2,459	1,652
Arkansas	566	864	750	406	359
Louisiana	6,563	6,653	7,293	7,589	6,716
Mississippi	474	878	826	482	334
New Mexico	323	209	146	655	363
Texas	18,711	17,485	17,509	13,772	13,360
Total	29,386	29,273	28,798	25,363	22,784
District 4:					
Colorado	2,497	2,572	2,617	1,961	1,700
Idaho	223	260	433	344	208
Montana	3,049	2,836	2,356	1,195	1,371
Utah	6,048	5,790	5,502	5,500	5,738
Wyoming	3,288	2,490	2,241	2,105	1,866
Total	15,105	13,948	13,149	11,105	10,883
District 5:					
Alaska	715	742	800	863	939
Arizona	117	60	113	40	87
California	68,949	62,842	66,927	67,614	75,104
Hawaii	6,716	6,940	7,539	7,673	8,266
Nevada	165	180	133	83	61
Oregon	4,989	4,930	5,314	4,931	5,617
Washington	7,626	7,625	8,807	8,824	9,555
Total	89,277	83,319	89,633	90,028	99,629
Total United States	548,433	538,522	556,632	574,118	613,972

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[1] Includes some crude oil burned as fuel.

Table 53.—Salient statistics of jet fuel in the United States, by months and districts

(Thousand barrels)

	1965														
	Production			Imports			Exports			Stocks, end of period			Domestic demand		
	Naphtha type[1]	Kerosine type	Total	Naphtha type	Kerosine type	Total	Naphtha type	Kerosine type	Total	Naphtha type	Kerosine type	Total	Naphtha type	Kerosine type	Total
By months:															
January	6,065	8,808	14,873	1,920	850	2,770	61	59	120	7,528	10,172	17,700	8,764	9,803	18,567
February	6,019	7,712	13,731	1,346	787	2,133	-----	12	12	7,992	10,679	18,671	6,901	7,980	14,881
March	7,084	8,952	16,036	784	968	1,752	49	48	97	8,467	10,757	19,224	7,344	9,794	17,138
April	6,652	9,102	15,754	1,806	901	2,707	47	49	96	8,659	11,351	20,010	8,219	9,360	17,579
May	7,478	9,418	16,896	1,353	1,210	2,563	13	9	22	8,451	11,578	20,029	9,026	10,392	19,418
June	6,702	8,964	15,666	1,594	1,325	2,919	33	11	44	8,551	11,958	20,509	8,163	9,898	18,061
July	7,010	9,816	16,826	874	1,395	2,269	53	10	63	8,673	12,327	21,000	7,709	10,832	18,541
August	7,365	8,674	16,039	1,395	1,424	2,819	105	10	115	8,111	11,709	19,820	9,217	10,706	19,923
September	7,056	8,934	15,990	484	1,270	1,754	51	15	66	7,151	10,765	17,916	8,449	11,133	19,582
October	7,221	9,275	16,496	1,001	1,019	2,020	93	11	104	7,559	10,691	18,250	7,721	10,357	18,078
November	6,806	9,423	16,229	1,716	1,037	2,753	70	41	111	7,508	11,082	18,590	8,503	10,028	18,531
December	7,071	9,561	16,632	1,675	1,292	2,967	119	38	157	8,338	10,361	18,699	7,797	11,536	19,333
Total	82,529	108,639	191,168	15,948	13,478	29,426	694	313	1,007	8,338	10,361	18,699	97,813	121,819	219,632
By districts:															
East Coast	2,301	5,837	8,138	13,014	9,704	22,718				571	1,896	2,467			
Appalachian No. 1	753	129	882							104	88	192			
Appalachian No. 2	76	1,202	1,278							51	130	181			
Indiana, Illinois, Kentucky, etc.	8,770	16,178	24,948	------	214	214				474	1,787	2,261			
Minnesota, Wisconsin, North and South Dakota	2,106	25	2,131							254	244	498			
Oklahoma, Kansas, Missouri, etc.	6,961	8,052	15,013				-----	65	65	816	659	1,475	NA	NA	NA
Texas Inland	10,221	5,355	15,576							633	341	974			
Texas Gulf	15,777	20,375	36,152							1,420	1,136	2,556			
Louisiana Gulf Coast	9,878	20,373	30,251	------	60	60				1,064	465	1,529			
Arkansas, Louisiana Inland, etc.	1,408	80	1,488							421	227	648			
New Mexico	1,393	------	1,393							180	11	191			
Rocky Mountain	5,579	988	6,567	------	------	------				477	76	553			
West Coast	17,306	30,045	47,351	2,934	3,500	6,434	694	248	942	1,873	3,301	5,174			
Total	82,529	108,639	191,168	15,948	13,478	29,426	694	313	1,007	8,338	10,361	18,699	97,813	121,819	219,632

By months:															
January	6,417	10,364	16,781	1,186	1,098	2,284	114	65	179	8,423	10,515	18,938	7,404	11,243	18,647
February	5,336	10,318	15,654	1,059	1,286	2,345	154	7	161	8,292	10,888	19,180	6,372	11,224	17,596
March	6,561	11,311	17,872	1,628	1,469	3,097	128	13	141	8,562	11,521	20,083	7,791	12,134	19,925
April	6,952	10,694	17,646	1,203	1,440	2,643	92	66	158	7,913	10,821	18,734	8,712	12,768	21,480
May	7,074	11,396	18,470	1,491	1,330	2,821	50	23	73	7,528	12,075	19,603	8,900	11,449	20,349
June	7,440	11,143	18,583	732	1,729	2,461	138	2	140	7,491	12,307	19,798	8,071	12,638	20,709
July	7,512	10,257	17,769	1,536	1,822	3,358	157	-----	157	7,652	15,374	23,026	8,730	9,012	17,742
August	8,218	8,129	16,347	2,019	1,978	3,997	177	36	213	7,726	15,970	23,696	9,986	9,475	19,461
September	8,021	9,695	17,716	848	1,565	2,413	148	-----	148	7,486	15,139	22,625	8,961	12,091	21,052
October	8,981	10,483	19,464	339	1,662	2,001	166	2	168	7,456	13,597	21,053	9,184	13,685	22,869
November	8,104	11,538	19,642	254	1,562	1,816	120	-----	120	6,806	14,037	20,843	8,888	12,660	21,548
December	8,907	10,645	19,552	279	1,823	2,102	121	21	142	7,235	12,139	19,374	8,636	14,345	22,981
Total	89,523	125,973	215,496	12,574	18,764	31,338	1,565	235	1,800	7,235	12,139	19,374	101,635	142,724	244,359
By districts:															
East Coast	2,805	9,057	11,862	8,326	12,810	21,136				382	2,423	2,805			
Appalachian No. 1	736	259	995							30	93	123			
Appalachian No. 2	22	715	737							79	126	205			
Indiana, Illinois, Kentucky, etc.	9,064	20,436	29,500							443	2,397	2,840			
Minnesota, Wisconsin, North and South Dakota	2,037	------	2,037	------	459	459				192	335	527			
Oklahoma, Kansas, Missouri, etc.	6,965	7,737	14,702				20	54	74	753	643	1,396	NA	NA	NA
Texas Inland	10,179	7,412	17,591							518	692	1,210			
Texas Gulf	20,540	23,486	44,026							1,555	1,513	3,068			
Louisiana Gulf Coast	11,211	23,307	34,518	------	194	194				934	494	1,428			
Arkansas, Louisiana Inland, etc.	1,410	107	1,517							304	17	321			
New Mexico	1,199	------	1,199							132	9	141			
Rocky Mountain	3,924	1,313	5,237	------	------	------				508	120	628			
West Coast	19,381	32,144	51,525	4,248	5,301	9,549	1,545	181	1,726	1,405	3,277	4,682			
Total	89,473	125,973	215,446	12,574	18,764	31,338	1,565	235	1,800	7,235	12,139	19,374	101,635	142,724	244,359

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p Preliminary. NA Not available.

[1] Includes naphtha-type jet fuel produced at natural gas liquid plants: Arkansas, Louisiana Inland, etc.; 1965–113; 1966–50.

Table 54.—Salient statistics of lubricants in the United States, by months and districts

(Thousand barrels unless otherwise stated)

Month and district	1965											
	Production				Yield (percent)	Imports (all types)	Exports (all types)	Stocks, end of period				Domestic demand (all types)
	Bright stock	Neutral	Other grades	Total				Bright stock	Neutral	Other grades	Total	
By months:												
January	563	1,845	2,540	4,948	1.8	1	1,274	1,676	3,810	8,367	13,853	3,884
February	544	1,975	2,350	4,869	1.9	1	1,062	1,788	4,192	8,452	14,432	3,229
March	670	2,077	2,715	5,462	2.0	2	1,599	1,940	4,060	8,012	14,012	4,285
April	528	2,044	2,732	5,304	2.0	2	1,817	1,790	3,762	8,123	13,675	3,826
May	675	2,035	2,870	5,580	2.0	3	1,693	1,771	3,618	8,000	13,389	4,176
June	514	1,913	2,648	5,075	1.9	3	1,327	1,631	3,439	7,818	12,888	4,252
July	531	2,186	2,684	5,401	1.9	3	1,356	1,583	3,528	7,689	12,800	4,136
August	615	2,112	2,694	5,421	1.9	3	914	1,664	3,612	7,987	13,263	4,047
September	511	2,007	2,592	5,110	1.9	3	1,412	1,532	3,624	7,835	12,991	3,973
October	580	1,824	2,745	5,149	1.8	3	1,564	1,588	3,238	7,930	12,756	3,823
November	546	2,097	2,493	5,136	1.8	2	1,219	1,600	3,351	7,944	12,895	3,780
December	597	2,130	2,743	5,470	1.9	3	1,355	1,808	3,518	7,978	13,304	3,709
Total	6,874	24,245	31,806	62,925	1.9	29	16,592	1,808	3,518	7,978	13,304	47,120
By districts:												
East Coast	890	2,638	4,225	7,753	1.8	27		222	501	2,258	2,981	
Appalachian No. 1	1,119	1,601	756	3,476	8.4			192	223	338	753	
Appalachian No. 2	25	75	320	420	1.1			2	21	83	106	
Indiana, Illinois, Kentucky, etc.	730	4,536	463	5,729	1.0			102	443	1,204	1,749	
Minnesota, Wisconsin, etc.	-----	-----	-----	-----	---	-----		-----	-----	42	42	
Oklahoma, Kansas, etc.	493	3,181	1,460	5,134	1.8		15,593	118	652	213	983	
Texas Inland	17	-----	156	173	.1			-----	-----	38	38	NA
Texas Gulf Coast	1,931	4,913	18,201	25,045	3.3			366	770	2,510	3,646	
Louisiana Gulf Coast	797	5,400	871	7,068	2.2	1		159	620	246	1,025	
Arkansas, Louisiana Inland	377	115	1,500	1,992	4.2			-----	9	234	243	
New Mexico	-----	-----	-----	-----	---			-----	-----	4	4	
Rocky Mountain	37	263	148	448	.4	-----		9	55	42	106	
West Coast	458	1,523	3,706	5,687	1.1	1	999	638	224	766	1,628	
Total	6,874	24,245	31,806	62,925	1.9	29	16,592	1,808	3,518	7,978	13,304	47,120

By months:												
January	590	2,339	2,696	5,625	1.9	2	1,055	1,793	3,733	8,292	13,818	4,058
February	480	2,030	2,612	5,122	1.9	2	1,250	1,935	3,961	8,199	14,095	3,597
March	496	2,204	2,662	5,362	1.9	3	1,257	1,895	3,721	8,015	13,631	4,572
April	465	2,265	2,569	5,299	2.0	3	1,435	1,750	3,508	7,831	13,089	4,409
May	489	2,363	2,783	5,635	1.9	3	1,229	1,743	3,461	7,897	13,101	4,397
June	381	2,101	2,651	5,133	1.8	3	1,464	1,456	3,189	7,901	12,546	4,227
July	519	2,514	2,765	5,798	1.9	3	1,703	1,363	3,262	7,882	12,507	4,137
August	551	2,452	2,762	5,765	1.9	2	1,334	1,243	3,369	7,987	12,599	4,341
September	537	2,339	2,547	5,423	1.9	3	1,692	1,314	3,370	7,687	12,371	3,962
October	570	2,352	2,923	5,845	2.0	3	1,720	1,334	3,323	7,584	12,241	4,258
November	459	2,120	2,635	5,214	1.8	3	1,461	1,299	3,260	8,424	12,983	3,014
December	624	2,354	2,208	5,186	1.7	2	1,516	1,364	3,387	7,931	12,682	3,973
Total	6,161	27,433	31,813	65,407	1.8	32	17,116	1,364	3,387	7,931	12,682	48,945
By districts:												
East Coast	695	2,952	3,314	6,961	1.5	24	16,337	148	607	2,426	3,181	NA
Appalachian No. 1	1,270	1,674	621	3,565	8.3			259	245	319	823	
Appalachian No. 2	8	176	222	406	1.4	4		-----	36	46	82	
Indiana, Illinois, Kentucky, etc.	944	5,040	156	6,140	1.0			120	541	828	1,489	
Minnesota, Wisconsin, etc.	-----	-----	-----	-----	---			-----	-----	44	44	
Oklahoma, Kansas, etc.	562	3,092	1,484	5,138	1.7			111	422	203	736	
Texas Inland	-----	-----	156	156	.2	2		-----	-----	33	33	
Texas Gulf Coast	1,562	6,531	19,221	27,314	3.5			273	898	2,424	3,595	
Louisiana Gulf Coast	701	5,901	1,117	7,719	2.2			33	375	254	662	
Arkansas, Louisiana Inland, etc.	-----	132	2,059	2,191	4.6			-----	18	404	422	
New Mexico	-----	-----	-----	-----	---			-----	-----	4	4	
Rocky Mountain	43	247	187	477	.3	---		14	65	43	122	
West Coast	376	1,688	3,276	5,340	1.0	2	779	406	180	903	1,489	
Total	6,161	27,433	31,813	65,407	1.8	32	17,116	1,364	3,387	7,931	12,682	48,945

NA Not available.
p Preliminary.

Table 55.—Salient statistics of liquefied gases and ethane in the United States, by months and districts

(Thousand barrels unless otherwise stated)

Month and district	1965 Refinery production	1965 Yield (percent)	1965 Transfers from gasoline plants	1965 Imports	1965 Exports	1965 Stocks, end of period	1965 Domestic demand	1966 ᵖ Refinery production	1966 ᵖ Yield (percent)	1966 ᵖ Transfers from gasoline plants	1966 ᵖ Imports	1966 ᵖ Exports	1966 ᵖ Stocks, end of period	1966 ᵖ Domestic demand
By months:														
January	8,807	3.1	20,556	620	488	3,452	29,735	9,618	3.2	24,038	1,013	801	2,761	34,772
February	8,677	3.4	19,222	614	463	3,394	28,108	8,849	3.4	21,100	950	543	2,602	30,515
March	9,500	3.5	20,104	686	760	3,033	29,891	8,930	3.2	17,923	949	837	2,364	27,203
April	8,878	3.4	14,520	408	480	3,360	22,999	9,071	3.3	14,861	727	694	2,354	23,975
May	9,346	3.4	13,014	369	574	4,153	21,362	9,793	3.4	13,765	594	638	2,927	22,941
June	9,049	3.3	12,785	497	676	4,496	21,312	8,295	2.9	13,344	720	655	3,051	21,580
July	9,228	3.2	12,308	481	544	4,612	21,357	8,929	3.0	13,247	659	594	3,625	21,667
August	8,962	3.1	13,096	623	685	4,580	22,028	9,148	3.0	14,267	846	602	3,803	23,481
September	8,552	3.1	14,650	670	673	4,538	23,241	8,136	2.8	15,792	831	660	3,787	24,115
October	8,412	3.0	17,465	665	553	4,383	26,144	8,274	2.8	18,829	935	678	4,008	27,139
November	8,226	3.0	19,575	843	868	4,307	27,852	8,403	3.0	22,157	1,108	757	3,694	31,225
December	9,199	3.1	22,923	1,077	757	3,665	33,084	8,772	2.9	25,758	1,157	720	3,336	35,325
Total	106,836	3.2	200,218	7,553	7,521	3,665	307,113	106,218	3.0	215,081	10,489	8,179	3,336	323,938
By districts														
East Coast	12,591	3.0		182		256		14,299	3.0		71		478	
Appalachian No. 1	762	1.8				9		760	1.8				5	
Appalachian No. 2	550	1.4				3		454	1.5				2	
Indiana, Illinois, Kentucky, etc.	11,027	1.9		4,146		380		12,204	1.9		5,678		509	
Minnesota, Wisconsin, N. & S. Dakota	986	1.8				25		1,190	2.0				22	
Oklahoma, Kansas, etc.	7,107	2.6	NA		6,622	392	NA	8,013	2.7	NA		7,260	278	NA
Texas Inland	2,832	2.4				109		3,284	2.7				108	
Texas Gulf Coast	43,466	5.7				1,128		36,484	4.6				626	
Louisiana Gulf Coast	12,692	3.9		------		397		14,917	4.3		------		268	
Arkansas, Louisiana Inland, etc.	1,030	2.2				15		996	2.1				12	
New Mexico	214	1.9				6		242	1.9				5	
Rocky Mountain	1,438	1.2		684		18		1,632	1.3		916		20	
West Coast	12,141	2.4		2,541	899	927		11,743	2.3		3,824	919	1,003	
Total	106,836	3.2	200,218	7,553	7,521	3,665	307,113	106,218	3.0	215,081	10,489	8,179	3,336	323,938

ᵖ Preliminary. NA Not available.

Table 56.—Statistical summary of petroleum asphalt and road oil

(Thousand short tons)[1]

	1962	1963	1964	1965	1966[p]
Petroleum asphalt:					
Production	19,923	20,354	20,887	22,473	23,560
Imports (including natural)	1,204	1,130	1,075	1,145	1,110
Exports	150	128	139	66	87
Stocks (end of period)	2,591	2,610	2,588	2,941	3,147
Apparent Domestic consumption	20,749	21,337	21,845	23,199	24,377
Petroleum asphalt shipments:					
Paving	16,322	16,947	17,367	[r]18,441	19,648
Roofing	3,842	3,821	4,217	[r]4,031	3,992
All other	1,932	1,879	2,462	[r]2,555	2,798
Total	22,096	22,647	24,046	[r]25,027	26,438
Road oil:					
Production	1,287	1,235	1,158	1,194	1,318
Stocks (end of period)	159	137	105	106	167
Apparent domestic consumption	1,266	1,257	1,190	1,193	1,257
Road oil shipments	1,109	1,099	1,208	[r]1,132	1,045

[p] Preliminary. [r] Revised.

[1] Converted from barrels to short tons (5.5 barrels = 1 short ton).

Table 57.—Salient statistics of petroleum asphalt in the United States, by months and districts

(Thousand short tons) [1]

Month and district	1965					1966 p				
	Production	Imports (including natural)	Exports	Stocks (end of period)	Domestic demand	Production	Imports (including natural)	Exports	Stocks (end of period)	Domestic demand
Month:										
January	1,041	72	2	3,065	634	1,196	70	6	3,537	664
February	1,040	76	3	3,537	641	1,096	68	3	4,070	628
March	1,353	59	6	4,071	872	1,447	52	10	4,449	1,110
April	1,502	75	7	4,231	1,410	1,864	38	5	4,872	1,474
May	2,212	76	6	4,281	2,232	2,078	81	9	4,820	2,202
June	2,196	159	11	3,765	2,860	2,508	93	8	4,288	3,125
July	2,615	112	7	3,361	3,124	2,555	154	12	3,798	3,187
August	2,663	160	7	2,939	3,238	2,695	136	7	3,065	3,557
September	2,449	135	5	2,699	2,819	2,581	136	7	2,775	3,000
October	2,294	88	4	2,407	2,670	2,354	172	7	2,415	2,879
November	1,777	71	4	2,536	1,715	1,823	66	8	2,619	1,677
December	1,331	62	4	2,941	984	1,363	44	5	3,147	874
Total	22,473	1,145	66	2,941	23,199	23,560	1,110	87	3,147	24,377
District:										
East Coast	5,157	928		777		5,045	988		845	
Appalachian No. 1	243			55		247			48	
Appalachian No. 2	634			70		600			82	
Illinois, Indiana, Kentucky, etc.	4,312	26		475		4,865	27		581	
Minnesota, Wisconsin, North Dakota	326			55		414			40	
Oklahoma, Kansas, etc.	2,301		33	331		2,242		47	308	
Texas Inland	1,066			111	NA	1,063			92	NA
Texas Gulf Coast	1,428			115		1,452			140	
Louisiana Gulf Coast	1,406	191		180		1,535	95		222	
Arkansas, Louisiana Inland, etc.	1,060			120		1,088			155	
New Mexico	149			22		161			40	
Rocky Mountain	1,351	------		241		1,425	------		242	
West Coast	3,040	------	33	389		3,423	------	40	352	
Total	22,473	1,145	66	2,941	23,199	23,560	1,110	87	3,147	24,377

p Preliminary. NA Not available.

[1] Converted from barrels to short tons (5.5 barrels = 1 short ton).

Table 58.—Salient statistics of road oil in the United States, by months and refinery districts

(Short tons) [1]

Month and district	1965			1966 p		
	Production	Stocks (end of period)	Domestic demand	Production	Stocks (end of period)	Domestic demand
Month:						
January	46,545	141,636	10,182	38,182	132,909	11,455
February	45,273	182,364	4,545	36,182	159,454	9,637
March	61,454	218,182	25,636	88,364	222,000	25,818
April	65,091	250,000	33,273	100,727	269,101	53,626
May	115,818	266,727	99,091	104,181	263,455	109,827
June	173,273	238,182	201,818	158,909	218,364	204,000
July	220,545	196,909	261,818	248,909	212,010	255,263
August	210,182	150,909	256,182	228,545	173,073	267,482
September	105,273	108,909	147,273	140,182	154,000	159,255
October	92,000	102,909	98,000	77,091	135,636	95,455
November	26,909	87,818	42,000	31,273	125,273	41,636
December	31,273	106,182	12,909	65,091	167,091	23,273
Total	1,193,636	106,182	1,192,727	1,317,636	167,091	1,256,727
District:						
East Coast	2,000	------	NA	2,363	------	NA
Appalachian No. 1	112,181	5,273		144,182	15,273	
Appalachian No. 2	------	------		------	------	
Indiana, Illinois, Kentucky, etc.	371,637	6,363		276,182	7,454	
Minnesota, Wisconsin, North Dakota	28,728	------		39,091	------	
Oklahoma, Kansas, etc.	255,090	29,273		333,636	35,273	
Texas Inland	------	------		------	------	
Texas Gulf Coast	5,092	364		5,273	364	
Louisiana Gulf Coast	------	------		------	------	
Arkansas, Louisiana Inland, etc.	------	------		------	------	
New Mexico	------	------		------	------	
Rocky Mountain	229,454	18,545		282,364	16,182	
West Coast	189,454	46,364		234,545	92,545	
Total	1,193,636	106,182	1,192,727	1,317,636	167,091	1,256,727

p Preliminary. NA Not available.

[1] Converted from barrels to short tons (5.5 barrels = 1 short ton).

Table 59.—Salient statistics of special naphthas in the United States, by months and refining districts

(Thousand barrels unless otherwise stated)

Month and district	1965 Production at refineries	1965 Yield (percent)	1965 Production at natural gasoline plants	1965 Imports	1965 Exports	1965 Stocks (end of period)	1965 Domestic demand	1966 p Production at refineries	1966 p Yield (percent)	1966 p Production at natural gasoline plants	1966 p Imports	1966 p Exports	1966 p Stocks (end of period)	1966 p Domestic demand
Month:														
January	2,294	0.8	19	125	68	5,888	2,361	2,655	0.9	28	330	112	6,379	2,731
February	2,252	.9	12	274	66	5,794	2,566	2,340	.9	6	2	157	6,303	2,267
March	2,349	.9	13	473	110	5,719	2,800	2,490	.9	7	278	182	6,008	2,888
April	2,253	.9	7	290	216	5,535	2,518	2,250	.8	5	2	136	5,706	2,423
May	2,223	.8	11	235	155	5,444	2,405	2,659	.9	5	318	159	5,686	2,843
June	2,601	.9	10	319	164	5,263	2,947	2,502	.9	5	149	267	5,468	2,607
July	2,444	.8	18	255	193	6,162	1,625	2,397	.8	5	154	175	5,496	2,353
August	2,375	.8	7	286	107	5,793	2,930	2,553	.8	27	141	139	5,510	2,568
September	2,366	.9	9	414	154	5,743	2,685	2,588	.9	10	137	181	5,439	2,625
October	2,471	.9	7	3	113	5,835	2,276	2,581	.9	6	3	137	5,445	2,447
November	2,482	.9	5	3	119	5,999	2,207	2,345	.8	5	241	203	5,460	2,373
December	2,624	.9	5	187	99	6,209	2,507	2,274	.8	7	140	163	5,583	2,135
Total	28,734	.9	123	2,864	1,564	6,209	29,827	29,634	.9	116	1,895	2,011	5,583	30,260
District:														
East Coast	1,428	.3	-----	2,300	331	1,419		1,300	.3	-----	1,875	588	1,248	
Appalachian No. 1	449	1.1	-----			94		437	1.1	-----			77	
Appalachian No. 2	165	.4	-----			17		177	.6	-----			26	
Indiana, Illinois, Kentucky, etc.	3,849	.4	-----	27	462	1,007		3,628	.6	-----	20	428	924	
Minnesota, Wisconsin, etc.	-----	---	-----			122		-----	---	-----			93	
Oklahoma, Kansas, etc.	2,082	.8	-----			298		2,431	.8	-----			303	
Texas Inland	1,131	1.0	93			97	NA	1,009	.8	51			126	NA
Texas Gulf Coast	14,861	2.0	6			1,912		16,520	2.1	-----			1,665	
Louisiana Gulf Coast	433	.1	-----			122		521	.2	2			92	
Arkansas, Louisiana Inland, etc.	715	1.5	24	537	715	136		748	1.6	63	-----	917	106	
New Mexico	-----	---	-----			1		-----	---	-----			1	
Rocky Mountain	525	.4	-----	-----	-----	52		559	.5	-----	-----	-----	53	
West Coast	3,096	.6	-----	-----	56	932		2,304	.4	-----	-----	78	869	
Total	28,734	.9	123	2,864	1,564	6,209	29,827	29,634	.9	116	1,895	2,011	5,583	30,260

p Preliminary. NA Not available.

Table 60.—Salient statistics on wax in the United States, by types, months, and districts

(Thousand barrels) [1]

Month and district	1965										
	Production				Imports (all types)	Exports (all types)	Stocks, end of period				Domestic demand (all types)
	Micro-crystal-line	Fully refined	Other	Total			Micro-crystal-line	Fully refined	Other	Total	
By months:											
January	79	247	147	473	------	45	206	386	433	1,025	311
February	70	204	99	373	------	80	200	467	346	1,013	305
March	75	266	139	480	------	150	191	452	358	1,001	342
April	84	237	135	456	------	172	192	439	366	997	288
May	86	273	129	488	------	170	203	457	350	1,010	305
June	71	245	126	442	------	140	200	455	320	975	337
July	70	251	113	434	------	120	204	466	339	1,009	280
August	80	252	142	474	1	145	204	471	359	1,034	305
September	68	252	125	445	3	153	196	438	345	979	350
October	80	303	81	464	3	160	194	437	324	955	331
November	75	267	100	442	3	141	187	418	289	894	365
December	79	275	131	485	1	178	193	396	301	890	312
Total	917	3,072	1,467	5,456	11	1,654	193	396	301	890	3,831
By districts:											
East Coast	200	1,332	498	2,030	2	1,522	32	76	49	157	NA
Appalachian No. 1	174	49	206	429			28	42	11	81	
Appalachian No. 2	------	53	25	78			------	6	------	6	
Indiana, Illinois, Kentucky, etc.	20	269	161	450	------		2	19	118	139	
Minnesota, Wisconsin, etc.	------	------	------	------			------	------	------	------	
Oklahoma, Kansas, etc.	200	222	83	505			42	37	7	86	
Texas Inland	71	------	------	71			55	------	------	55	
Texas Gulf Coast	134	473	354	961			14	45	96	155	
Louisiana Gulf Coast	103	304	2	409	9		13	60	1	74	
Arkansas, Louisiana Inland, etc.	------	------	------	------			------	------	------	------	
New Mexico	------	------	------	------			------	------	------	------	
Rocky Mountain	15	74	12	101	------		7	40	19	66	
West Coast	------	296	126	422	------	132	------	71	------	71	
Total	917	3,072	1,467	5,456	11	1,654	193	396	301	890	3,831

See footnotes at end of table.

Table 60.—Salient statistics on wax in the United States, by types, months, and districts—Continued

(Thousand barrels) [1]

Month and district	1966 p										
	Production				Imports (all types)	Exports (all types)	Stocks, end of period				Domestic demand (all types)
	Micro-crystalline	Fully refined	Other	Total			Micro-crystalline	Fully refined	Other	Total	
By months:											
January	73	260	161	494	-----	133	188	396	321	905	346
February	83	244	112	439	-----	135	196	391	320	907	302
March	94	295	124	513	-----	161	202	390	264	856	403
April	79	280	141	500	-----	155	201	382	263	846	355
May	85	264	140	489	-----	157	207	361	247	815	363
June	100	298	100	498	1	156	203	372	239	814	344
July	95	273	131	499	1	157	209	403	258	870	287
August	99	270	103	472	1	168	221	395	241	857	318
September	88	210	172	470	-----	195	219	372	263	854	278
October	81	268	113	457	-----	154	217	347	294	858	299
November	82	304	93	479	1	138	217	352	296	865	335
December	78	290	94	462	1	178	207	397	257	861	289
Total	1,037	3,251	1,484	5,772	5	1,887	207	397	257	861	3,919
By districts:											
East Coast	251	1,338	468	2,057	5		48	117	38	203	
Appalachian No. 1	222	71	175	468			39	36	16	91	
Appalachian No. 2	-----	53	16	69			-----	8	-----	8	
Indiana, Illinois, Kentucky, etc.	24	218	122	364	-----		1	37	99	137	
Minnesota, Wisconsin, etc.	-----	-----	-----	-----			-----	-----	-----	-----	
Oklahoma, Kansas, etc.	200	244	77	521			44	22	5	71	
Texas Inland	66	-----	-----	66		1,741	35	-----	-----	35	NA
Texas Gulf Coast	182	525	412	1,119			20	39	87	146	
Louisiana Gulf Coast	84	389	23	496	-----		14	46	2	62	
Arkansas, Louisiana Inland, etc.	-----	-----	-----	-----			-----	-----	-----	-----	
New Mexico	-----	-----	-----	-----			-----	-----	-----	-----	
Rocky Mountain	8	96	10	114	-----		6	20	10	36	
West Coast	-----	317	181	498	-----	146	-----	72	-----	72	
Total	1,037	3,251	1,484	5,772	5	1,887	207	397	257	861	3,919

p Preliminary. NA Not Available.

[1] Conversion factor: 280 pounds to the barrel.

Table 61.—Salient statistics of petroleum coke in the United States, by months and districts [1]

(Thousand barrels unless otherwise stated)

Month and district	1965							1966 p						
	Marketable	Production catalyst	Total	Yield (percent)	Exports	Stocks, end of period	Domestic demand	Marketable	Production catalyst	Total	Yield (percent)	Exports	Stocks, end of period	Domestic demand
By months:														
January	3,345	4,133	7,478	2.6	361	7,303	6,609	3,394	4,394	7,788	2.6	921	7,752	6,504
February	3,124	3,907	7,031	2.8	471	7,536	6,327	2,901	3,860	6,761	2.5	778	7,732	6,003
March	3,153	4,087	7,240	2.6	795	7,538	6,443	3,174	4,214	7,388	2.6	976	7,919	6,225
April	2,798	3,862	6,660	2.6	1,073	7,697	5,428	2,993	3,913	6,906	2.5	1,204	7,849	5,772
May	2,861	4,087	6,948	2.5	896	7,821	5,928	3,217	4,023	7,240	2.5	1,184	7,813	6,092
June	2,789	4,246	7,035	2.6	1,564	7,740	5,552	2,843	4,254	7,097	2.5	1,349	7,759	5,802
July	3,001	4,373	7,374	2.5	1,271	7,553	6,290	3,148	4,203	7,351	2.4	1,102	7,910	6,098
August	2,996	4,449	7,445	2.6	1,467	7,301	6,230	3,366	4,285	7,651	2.5	1,408	7,781	6,372
September	2,975	4,239	7,214	2.6	821	7,088	6,606	3,003	4,024	7,027	2.4	1,555	7,528	5,725
October	2,830	3,962	6,792	2.4	1,049	7,071	5,760	3,422	3,969	7,391	2.5	1,493	7,418	6,008
November	2,991	4,067	7,058	2.5	1,034	7,053	6,042	3,420	4,169	7,589	2.7	1,242	7,294	6,471
December	3,455	4,310	7,765	2.7	1,017	7,389	6,412	3,627	4,238	7,865	2.6	1,253	7,297	6,609
Total	36,318	49,722	86,040	2.5	11,819	7,389	73,627	38,508	49,546	88,054	2.5	14,465	7,297	73,681
By districts:														
East Coast	5,441	8,325	13,766	3.1	6,647	726	NA	5,317	8,335	13,652	2.9	8,845	849	NA
Appalachian No. 1	-----	236	236	.6		-----		-----	217	217	.5		-----	
Appalachian No. 2	-----	473	473	1.2		-----		-----	289	289	.9		-----	
Indiana, Illinois, Kentucky, etc.	7,430	9,855	17,285	2.9		1,226		8,385	10,177	18,562	3.0		1,354	
Minnesota, Wisconsin, etc.	1,720	675	2,395	3.2		474		1,982	728	2,710	4.6		382	
Oklahoma, Kansas, etc.	3,659	4,125	7,784	2.8		1,219		3,743	4,267	8,010	2.7		492	
Texas Inland	452	1,693	2,145	1.8		-----		496	1,702	2,198	1.8		-----	
Texas Gulf Coast	4,314	13,427	17,741	2.3		55		4,137	13,239	17,376	2.2		47	
Louisiana Gulf Coast	2,745	5,027	7,772	2.4		130		3,922	4,997	8,919	2.5		217	
Arkansas, Louisiana Inland, etc.	1,288	810	2,098	4.4		532		1,157	813	1,970	4.1		440	
New Mexico	-----	123	123	1.1		-----		-----	183	183	1.5		---	
Rocky Mountain	1,299	2,089	3,388	2.8		1,449		947	2,060	3,007	2.5		1,407	
West Coast	7,970	2,864	10,834	2.1	5,172	1,578		8,422	2,539	10,961	2.2	5,620	2,109	
Total	36,318	49,722	86,040	2.5	11,819	7,389	73,627	38,508	49,546	88,054	2.5	14,465	7,297	73,681

p Preliminary. NA Not Available.

[1] Conversion factor: 5.0 barrels to the short ton.

Table 62.—Production of still gas in the United States by districts

Districts	1964		1965		1966 p	
	Million cubic feet	Equivalent in thousand barrels	Million cubic feet	Equivalent in thousand barrels	Million cubic feet	Equivalent in thousand barrels
East Coast	104,110	17,132	115,208	18,556	105,433	17,364
Appalachian No. 1	10,439	1,839	10,191	1,726	9,910	1,641
Appalachian No. 2	13,112	1,816	12,938	1,765	9,663	1,426
Indiana, Illinois, Kentucky, etc.	169,473	26,063	173,403	26,720	184,978	29,019
Minnesota, Wisconsin, North Dakota and South Dakota	10,050	1,437	8,755	1,476	9,121	1,538
Oklahoma, Kansas, etc.	70,434	11,116	72,919	11,464	75,591	11,742
Texas Inland	31,198	5,542	33,053	5,459	32,733	5,456
Texas Gulf Coast	196,107	27,526	181,912	26,555	183,337	26,956
Louisiana Gulf Coast	60,024	9,000	70,360	10,566	70,122	10,826
Arkansas, Louisiana Inland, etc.	11,082	1,776	13,036	2,204	12,536	2,172
New Mexico	1,896	317	1,917	340	3,164	517
Rocky Mountain	21,338	3,785	23,744	4,352	24,881	4,654
West Coast	133,023	23,908	134,103	24,112	136,258	22,648
Total	832,286	131,257	851,539	135,295	857,727	135,459

p Preliminary.

Table 63.—Production of miscellaneous finished oils in the United States in 1966, by districts and classes

(Thousand barrels)

District	Absorption	Petrolatum	Specialty oils [1]	Petrochemicals	Other products	Total
East Coast	------	------	1,154	290	214	1,658
Appalachian No. 1	------	110	33	------	28	171
Appalachian No. 2	------	------	15	------	1	16
Indiana, Illinois, Kentucky, etc.	------	16	353	574	109	1,052
Minnesota, Wisconsin, North Dakota, and South Dakota	------	------	------	106	------	106
Oklahoma, Kansas, etc.	72	414	783	945	230	2,444
Texas, Inland	266	------	157	863	------	1,286
Texas Gulf	41	278	422	3,838	684	5,263
Louisiana Gulf	1,111	99	2	784	24	2,020
Arkansas, Louisiana Inland	451	------	------	8	------	459
Rocky Mountain, New Mexico	30	------	9	15	171	225
West Coast	32	25	2,081	991	601	3,730
Total:						
1966	2,003	942	5,009	8,414	2,062	18,430
1965	2,940	1,088	3,456	7,234	2,189	16,907

[1] Specialty oils include: Insulating 111; medicinal 192; rust preventatives 4; sand frac 26; spray oils 479; and others 4,197.

Table 64.—Petroleum oils crude and refined, imported into the United States, by months[1]

(Thousand barrels)

Year and class	January	February	March	April	May	June	July	August	September	October	November	December	Total
1965:													
Crude petroleum	37,344	32,685	41,398	38,110	38,961	39,912	40,691	40,770	43,152	39,111	32,024	27,882	452,040
Refined products:													
Motor gasoline	513	489	912	304	469	1,256	1,040	1,030	722	1,205	619	1,493	10,052
Special naphthas	125	274	473	290	235	319	255	286	414	3	3	187	2,864
Kerosine	------	------	------	------	------	------	------	7	------	------	28	65	100
Distillate fuel oil	1,094	797	1,439	827	1,239	470	938	1,591	1,061	1,340	1,063	1,143	13,002
Residual fuel oil	38,726	34,225	34,738	34,071	24,921	23,841	22,126	20,400	19,963	27,551	26,093	38,532	345,187
Jet fuel:													
Naphtha-type	1,920	1,346	784	1,806	1,353	1,594	874	1,395	484	1,001	1,716	1,675	15,948
Kerosine-type	850	787	968	901	1,210	1,325	1,395	1,424	1,270	1,019	1,037	1,292	13,478
Total jet fuel	2,770	2,133	1,752	2,707	2,563	2,919	2,269	2,819	1,754	2,020	2,753	2,967	29,426
Lubricants	1	1	2	2	3	3	3	3	3	3	2	3	29
Wax	------	------	------	------	------	------	------	1	3	3	3	1	11
Asphalt (incl. natural)	397	416	325	415	420	875	619	878	744	486	388	339	6,302
Liquefied gases (incl. ethane)	620	614	686	408	369	497	481	623	670	665	843	1,077	7,553
Petrochemical feedstocks	------	------	------	------	------	------	------	------	------	269	206	25	500
Unfinished oils	3,000	2,589	2,461	2,549	2,563	3,057	2,844	2,306	3,055	2,777	3,375	3,130	33,706
Total refined	47,246	41,538	42,788	41,573	32,782	33,237	30,575	29,944	28,389	36,322	35,376	48,962	448,732
Total crude and refined	84,590	74,223	84,186	79,683	71,743	73,149	71,266	70,714	71,541	75,433	67,400	76,844	900,772
1966: [p]													
Crude petroleum	41,956	34,658	38,765	36,508	37,330	38,959	39,062	41,458	36,004	36,019	34,413	31,988	447,120
Refined products:													
Motor gasoline	713	1,026	1,365	1,103	1,790	1,251	1,464	1,483	1,715	1,270	1,123	1,345	15,648
Special naphthas	330	2	278	2	318	149	154	141	137	8	241	140	1,895
Kerosine	27	------	------	------	130	------	------	------	------	62	------	------	219
Distillate fuel oil	1,054	564	750	1,424	1,194	1,784	1,062	1,019	1,128	1,372	909	1,585	13,845
Residual fuel oil	37,807	37,269	42,763	28,650	26,722	27,849	27,137	27,440	24,977	28,912	31,205	36,064	376,795
Jet fuel:													
Naphtha-type	1,186	1,059	1,628	1,203	1,491	732	1,536	2,019	848	339	254	279	12,574
Kerosine-type	1,098	1,286	1,469	1,440	1,330	1,729	1,822	1,978	1,565	1,662	1,562	1,823	18,764
Total jet fuel	2,284	2,345	3,097	2,643	2,821	2,461	3,358	3,997	2,413	2,001	1,816	2,102	31,338
Lubricants	2	2	3	3	3	3	3	2	3	3	3	2	32
Wax	------	------	------	------	------	1	1	1	------	------	1	1	5
Asphalt (incl. natural)	385	378	286	207	446	510	846	749	749	943	362	243	6,104
Liquefied gases (incl. ethane)	1,013	950	949	727	594	720	659	846	831	935	1,108	1,157	10,489
Petrochemical feedstocks	85	18	88	------	90	40	31	20	64	------	------	------	436
Unfinished oils	3,193	1,906	3,479	2,803	3,126	2,598	2,904	3,962	3,334	2,246	2,436	3,249	35,236
Total refined	46,893	44,460	53,058	37,562	37,234	37,366	37,619	39,660	35,351	37,747	39,204	45,888	492,042
Total crude and refined	88,849	79,118	91,823	74,070	74,564	76,325	76,681	81,118	71,355	73,766	73,617	77,876	939,162

[p] Preliminary.

[1] Imports of crude and unfinished oils reported to the Bureau of Mines; imports of refined products compiled from records of the U.S. Department of Commerce.

Table 65.—Crude oil and petroleum products imported into the United States, by country and receiving district

(Thousand barrels)

Country	Crude oil [1]	Gasoline	Special naphtha	Kerosine [2]	Distillate fuel oil [2]	Residual fuel oil [2]	Military jet fuel	Commercial jet fuel	Liquefied gases	Asphalt	Unfinished oils [1]	Lubricants	Wax	Petrochemical feedstocks	Total
1965:															
North America:															
Canada	107,762	170	35	1	21	1,964	-----	-----	7,451	183	395	23	3	-----	118,008
Mexico	2,552	6	-----	-----	145	5,839	-----	-----	1	-----	8,928	-----	8	-----	17,479
Total	110,314	176	35	1	166	7,803	-----	-----	7,452	183	9,323	23	11	-----	135,487
Central America and Caribbean:															
Bahamas	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	2
Panama	-----	-----	-----	-----	64	1,231	-----	-----	-----	-----	-----	-----	-----	-----	1,295
Puerto Rico	-----	7,711	-----	92	4,393	4,371	-----	-----	-----	-----	-----	-----	-----	500	17,067
Total	-----	7,711	-----	92	4,457	5,604	-----	-----	-----	-----	-----	-----	-----	500	18,364
South America:															
Argentina	-----	-----	-----	-----	-----	2,945	-----	-----	-----	-----	-----	-----	-----	-----	2,945
Barbados	-----	-----	-----	-----	-----	20	-----	-----	-----	-----	-----	-----	-----	-----	20
Colombia	15,211	-----	-----	-----	196	3,090	-----	-----	-----	-----	-----	-----	-----	-----	18,497
Netherland Antilles	-----	512	2,447	-----	5,326	103,645	5,927	7,232	-----	3,456	3,066	-----	-----	-----	131,611
Trinidad	-----	498	7	-----	57	37,600	5,658	1,235	-----	39	3,078	-----	-----	-----	48,172
Venezuela	157,852	1,002	255	7	2,800	180,538	4,363	4,676	100	2,592	8,735	-----	-----	-----	362,920
Total	173,063	2,012	2,709	7	8,379	327,838	15,948	13,143	100	6,087	14,879	-----	-----	-----	564,165
Europe:															
France	-----	-----	-----	-----	-----	120	-----	-----	-----	-----	-----	-----	-----	-----	120
Italy	-----	-----	-----	-----	-----	422	-----	-----	-----	-----	450	-----	-----	-----	872
Netherlands	-----	-----	-----	-----	-----	41	-----	-----	-----	32	292	6	-----	-----	371
United Kingdom	-----	-----	-----	-----	-----	95	-----	-----	-----	-----	-----	-----	-----	-----	95
West Germany	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	-----	-----	3
Total	-----	-----	-----	-----	-----	681	-----	-----	-----	32	742	6	-----	-----	1,461

Middle East:															
Abu Dhabi	5,035	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5,035
Bahrain	-----	78	-----	-----	-----	417	-----	237	-----	-----	1,254	-----	-----	-----	1,986
Iran	28,633	-----	-----	-----	-----	200	-----	-----	-----	-----	258	-----	-----	-----	29,091
Iraq	5,695	-----	-----	-----	-----	-----	-----	-----	-----	-----	3	-----	-----	-----	5,698
Kuwait	20,208	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,861	-----	-----	-----	22,069
Neutral Zone	9,756	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	9,756
Qatar	4,346	-----	-----	-----	-----	-----	-----	-----	-----	-----	277	-----	-----	-----	4,623
Saudi Arabia	48,235	75	-----	-----	-----	2,642	-----	98	-----	-----	1,715	-----	-----	-----	52,765
Total	121,908	153	-----	-----	-----	3,259	-----	335	-----	-----	5,368	-----	-----	-----	131,023
Africa:															
Algeria	3,256	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3,256
Egypt	881	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,268	-----	-----	-----	2,149
Libya	15,152	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	15,153
Nigeria	5,296	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5,296
Total	24,585	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,269	-----	-----	-----	25,854
Asiatic Area:															
India	-----	-----	120	-----	-----	1	-----	-----	-----	-----	292	-----	-----	-----	413
Japan	-----	-----	-----	-----	-----	1	-----	-----	1	-----	1,011	-----	-----	-----	1,013
Sumatra	22,170	-----	-----	-----	-----	-----	-----	-----	-----	-----	822	-----	-----	-----	22,992
Total	22,170	-----	120	-----	-----	2	-----	-----	1	-----	2,125	-----	-----	-----	24,418
Total imports	452,040	10,052	2,864	100	13,002	345,187	15,948	13,478	7,553	6,302	33,706	29	11	500	900,772
Imports by PAD districts:															
District I	258,361	9,158	2,300	92	11,041	318,634	13,014	9,704	182	5,106	23,260	27	2	500	651,381
District II	41,264	1	27	-----	17	1,188	-----	214	4,146	146	213	-----	-----	-----	47,216
District III	-----	-----	537	7	1,811	14,598	-----	60	-----	1,050	377	1	9	-----	18,450
District IV	4,807	-----	-----	-----	-----	43	-----	-----	684	-----	-----	-----	-----	-----	5,534
District V	147,608	893	-----	1	133	10,724	2,934	3,500	2,541	-----	9,856	1	-----	-----	178,191
1966: p															
North America:															
Canada	126,712	322	27	-----	196	1,880	46	1	10,382	205	338	25	5	-----	140,139
Mexico	-----	-----	-----	-----	-----	6,067	-----	-----	-----	-----	10,460	-----	-----	-----	16,527
Total	126,712	322	27	-----	196	7,947	46	1	10,382	205	10,798	25	5	-----	156,666
Central America and Caribbean:															
Panama	-----	572	-----	-----	-----	1,113	-----	-----	-----	-----	51	-----	-----	-----	1,736
Puerto Rico	-----	12,206	-----	219	4,692	4,749	-----	-----	-----	-----	-----	-----	-----	436	22,302
Total	-----	12,778	-----	219	4,692	5,862	-----	-----	-----	-----	51	-----	-----	436	24,038

See footnotes at end of table.

Table 65.—Crude oil and petroleum products imported into the United States, by country and receiving district—Continued

(Thousand barrels)

Country	Crude oil [1]	Gasoline	Special naphtha	Kerosine [2]	Distillate fuel oil [2]	Residual fuel oil [2]	Military jet fuel	Commercial jet fuel	Liquefied gases	Asphalt	Unfinished oils [1]	Lubricants	Wax	Petrochemical feedstocks	Total
South America:															
Argentina	-----	-----	-----	-----	-----	4,346	-----	-----	-----	-----	-----	-----	-----	-----	4,346
Bolivia	1,237	-----	-----	-----	-----	-----	-----	-----	-----	-----	87	-----	-----	-----	1,324
Colombia	14,424	-----	-----	-----	-----	3,515	-----	-----	-----	-----	-----	-----	-----	-----	17,939
Netherland Antilles	-----	918	1,648	-----	4,818	100,101	5,570	8,313	-----	3,427	1,151	-----	-----	-----	125,946
Trinidad	-----	638	-----	-----	294	44,614	5,072	2,283	-----	46	2,859	-----	-----	-----	55,806
Venezuela	147,427	992	220	-----	3,656	194,676	1,886	8,167	7	2,426	12,060	-----	-----	-----	371,517
Total	163,088	2,548	1,868	-----	8,768	347,252	12,528	18,763	7	5,899	16,157	-----	-----	-----	576,878
Europe:															
Belgium	-----	-----	-----	-----	-----	682	-----	-----	-----	-----	-----	-----	-----	-----	682
France	-----	-----	-----	-----	-----	521	-----	-----	-----	-----	-----	-----	-----	-----	521
Italy	-----	-----	-----	-----	188	5,264	-----	-----	-----	-----	1,055	-----	-----	-----	6,507
Netherlands	-----	-----	-----	-----	-----	1,285	-----	-----	-----	-----	-----	7	-----	-----	1,292
Spain	-----	-----	-----	-----	-----	634	-----	-----	-----	-----	-----	-----	-----	-----	634
United Kingdom	-----	-----	-----	-----	-----	2,109	-----	-----	1	-----	-----	-----	-----	-----	2,110
West Germany	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	1
Total	-----	-----	-----	-----	188	10,496	-----	-----	1	-----	1,055	7	-----	-----	11,747
Middle East:															
Abu Dhabi	4,781	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4,781
Bahrain	-----	-----	-----	-----	-----	824	-----	-----	-----	-----	-----	-----	-----	-----	824
Iran	30,833	-----	-----	-----	-----	845	-----	-----	-----	-----	801	-----	-----	-----	32,479
Iraq	9,447	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----	-----	-----	9,449
Kuwait	9,543	-----	-----	-----	-----	1,093	-----	-----	-----	-----	834	-----	-----	-----	11,470
Neutral Zone	7,028	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	7,028
Qatar	176	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	176
Saudi Arabia	45,771	-----	-----	-----	-----	2,271	-----	-----	99	-----	1,948	-----	-----	-----	50,089
Turkey	-----	-----	-----	-----	-----	200	-----	-----	-----	-----	-----	-----	-----	-----	200
Total	107,579	-----	-----	-----	-----	5,233	-----	-----	99	-----	3,585	-----	-----	-----	116,496
Africa:															
Algeria	1,400	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,400
Egypt	852	-----	-----	-----	-----	-----	-----	-----	-----	-----	314	-----	-----	-----	1,166
Libya	25,177	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	25,177
Morocco	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	-----	-----	3
Nigeria	4,114	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4,114
Total	31,543	-----	-----	-----	-----	3	-----	-----	-----	-----	314	-----	-----	-----	31,860

Asiatic Area:															
India	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,174	-----	-----	-----	1,174
Indonesia	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	177	-----	-----	-----	177
Japan	-----	-----	-----	-----	1	2	-----	-----	-----	-----	658	-----	-----	-----	661
Pakistan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	115	-----	-----	-----	115
Sumatra	18,198	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,152	-----	-----	-----	19,350
Total	18,198	-----	-----	-----	1	2	-----	-----	-----	-----	3,276	-----	-----	-----	21,477
Total imports	447,120	15,648	1,895	219	13,845	376,795	12,574	18,764	10,489	6,104	35,236	32	5	436	939,162
Imports by PAD districts:															
District I	259,499	11,159	1,875	219	12,548	357,907	8,326	12,810	71	5,432	26,743	24	5	162	696,780
District II	48,114	-----	20	-----	107	860	-----	459	5,678	148	43	4	-----	-----	55,433
District III	449	54	-----	-----	967	11,708	-----	194	-----	524	15	2	-----	274	14,187
District IV	4,954	-----	-----	-----	-----	55	-----	-----	916	-----	-----	-----	-----	-----	5,925
District V	134,104	4,435	-----	-----	223	6,265	4,248	5,301	3,824	-----	8,435	2	-----	-----	166,837

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[p] Preliminary.

[1] Imports of crude oil and unfinished oils reported to the Bureau of Mines, imports of refined products compiled from records of the U.S. Department of Commerce.

[2] Includes quantities imported duty free for supply of vessels and aircraft engaged in foreign trade.

Table 66.—Petroleum oils, crude and refined, exported from the United States, including shipments to territories and possessions, by months [1]

(Thousand barrels)

Year and class	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1965:													
Crude petroleum	89	45	3	187	-----	68	421	-----	-----	182	94	8	1,097
Refined products:													
Gasoline [2]	853	213	421	416	516	647	271	448	359	130	390	163	4,827
Special naphthas	68	66	110	216	155	164	193	107	154	113	119	99	1,564
Kerosine	7	11	8	66	33	10	13	23	15	16	9	8	219
Distillate fuel oil	370	263	603	272	315	228	245	279	498	146	291	320	3,830
Residual fuel oil	1,494	1,661	1,621	1,371	931	1,037	1,267	1,330	993	1,141	1,014	1,022	14,882
Jet fuel	120	12	97	96	22	44	63	115	66	104	111	157	1,007
Lubricants	1,274	1,062	1,599	1,817	1,693	1,327	1,356	914	1,412	1,564	1,219	1,355	16,592
Wax	45	80	150	172	170	140	120	145	153	160	141	178	1,654
Coke	361	471	795	1,073	896	1,564	1,271	1,467	821	1,049	1,034	1,017	11,819
Asphalt	11	17	32	37	32	61	40	37	28	23	24	20	362
Petrochemical feedstocks	4	215	231	127	277	25	212	284	28	22	200	327	1,952
Liquefied gases (including ethane)	488	463	760	480	574	676	544	685	673	553	868	757	7,521
Miscellaneous	25	59	105	107	90	102	107	62	79	77	76	73	962
Total refined	5,120	4,593	6,532	6,250	5,704	6,025	5,702	5,896	5,279	5,098	5,496	5,496	67,191
Total crude and refined	5,209	4,638	6,535	6,437	5,704	6,093	6,123	5,896	5,279	5,280	5,590	5,504	68,288
1966: p													
Crude petroleum	135	-----	108	290	1	130	240	186	83	95	88	121	1,477
Refined products:													
Gasoline [2]	177	175	226	227	144	449	436	407	430	347	412	204	3,634
Special naphthas	112	157	182	136	159	267	175	139	181	137	203	163	2,011
Kerosine	28	15	30	22	30	28	14	9	29	19	16	16	256
Distillate fuel oil	447	1,022	299	284	348	283	301	343	354	175	279	383	4,518
Residual fuel oil	1,083	1,075	1,854	842	1,123	1,071	888	890	1,438	785	684	1,146	12,879
Jet fuel	179	161	141	158	73	140	157	213	148	168	120	142	1,800
Lubricants	1,055	1,250	1,257	1,435	1,229	1,464	1,703	1,334	1,692	1,720	1,461	1,516	17,116
Wax	133	135	161	155	157	156	157	168	195	154	138	178	1,887
Coke	921	778	976	1,204	1,184	1,349	1,102	1,408	1,555	1,493	1,242	1,253	14,465
Asphalt	34	14	53	26	48	42	65	40	41	36	47	30	476
Petrochemical feedstocks	37	218	111	574	282	53	440	222	98	215	282	177	2,709
Liquefied gases (including ethane)	801	543	837	694	638	655	594	602	660	678	757	720	8,179
Miscellaneous	55	62	74	91	63	107	61	98	114	94	88	82	989
Total refined	5,062	5,605	6,201	5,848	5,478	6,064	6,093	5,873	6,935	6,021	5,729	6,010	70,919
Total crude and refined	5,197	5,605	6,309	6,138	5,479	6,194	6,333	6,059	7,018	6,116	5,817	6,131	72,396

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[1] Compiled from records of U.S. Department of Commerce.

[2] Includes benzol, natural gasoline, and antiknock compounds.

Table 67.—Crude petroleum and products exported from the United States by countries of destination and shipments to and exports from Territories and possessions

(Thousand barrels)

Country	Crude petroleum	Gasoline	Naphtha	Jet	Kerosine	Distillate oil	Residual oil	Lubricating oil	Asphalt	Liquefied petroleum gases	Wax	Coke	Petrochemical feedstocks	Miscellaneous products	Total
1965:															
North America:															
Canada	12	324	517	---	17	658	r 4,558	1,323	r 59	60	147	1,713	73	170	r 9,631
Mexico	333	241	46	145	1	529	1,669	172	r 150	6,194	169	75	2	59	r 9,785
Netherlands Antilles	---	2,232	1	---	---	---	---	11	(1)	(1)	2	---	(1)	(1)	2,246
Other	---	76	38	(1)	4	54	188	399	r 40	49	101	3	83	41	r 1,076
Total	345	2,873	602	145	22	1,241	r 6,415	1,905	r 249	6,303	419	1,791	158	270	r 22,738
South America:															
Argentina	---	(1)	3	---	(1)	---	1	308	r (1)	363	1	---	(1)	6	r 682
Brazil	---	2	21	---	8	---	---	831	r 4	(1)	37	49	7	53	r 1,012
Chile	---	(1)	(1)	---	1	(1)	---	199	r 10	(1)	48	---	1	30	r 289
Colombia	(1)	(1)	5	---	(1)	---	---	52	1	(1)	31	(1)	7	22	118
Peru	r 1	(1)	2	---	(1)	(1)	r 1	147	1	---	30	1	2	17	202
Venezuela	(1)	1	14	---	(1)	2	---	38	2	(1)	48	2	2	9	118
Other	(1)	1	3	---	---	(1)	---	115	r 28	(1)	51	(1)	5	12	215
Total	1	4	48	---	9	2	2	1,690	r 46	363	246	52	24	149	2,636
Europe:															
Belgium-Luxembourg	---	5	49	---	(1)	145	1	681	1	(1)	12	206	6	18	1,124
Denmark	---	(1)	(1)	---	---	395	---	185	---	(1)	15	(1)	2	10	607
France	---	17	33	---	(1)	1	r 338	56	r 1	5	45	652	113	9	1,270
Germany, West	---	(1)	155	---	28	161	(1)	229	1	7	222	616	19	21	1,459
Greece	---	96	1	1	(1)	---	---	27	(1)	---	1	68	1	5	200
Italy	---	167	22	---	1	32	r 450	293	r 1	8	r 110	r 1,216	225	22	r 2,547
Netherlands	---	70	93	---	6	675	r 575	197	r 1	3	42	1,905	5	23	3,595
Norway	---	---	(1)	---	---	---	---	52	1	---	2	957	3	8	1,023
Sweden	---	(1)	(1)	---	---	(1)	---	369	1	---	12	82	6	18	488
United Kingdom	352	---	180	---	31	7	r 935	1,056	r 6	802	68	227	561	51	4,276
Other	---	(1)	12	---	(1)	(1)	r 16	535	r 6	(1)	82	361	8	32	r 1,052
Total	352	355	545	1	66	1,416	r 2,315	3,680	19	825	r 611	6,290	949	217	r 17,641
Africa:															
Congo (Kinshasa)	---	---	1	---	(1)	---	---	31	1	---	1	---	1	5	40
South Africa, Republic of	---	(1)	48	---	(1)	---	---	467	r 8	1	138	---	189	74	r 925
United Arab Republic (Egypt)	---	(1)	5	---	(1)	---	---	130	---	---	---	---	1	4	140
Other	---	117	6	---	5	---	(1)	256	2	1	35	(1)	8	61	491
Total	---	117	60	---	5	---	(1)	884	r 11	2	174	(1)	199	144	r 1,596

Table 67.—Crude petroleum and products exported from the United States by countries of destination and shipments to and exports from Territories and possessions—Continued

(Thousand barrels)

Country	Crude petroleum	Gasoline	Naphtha	Jet	Kerosine	Distillate oil	Residual oil	Lubricating oil	Asphalt	Liquefied petroleum gases	Wax	Coke	Petrochemical feedstocks	Miscellaneous products	Total
Asia:															
India	---	(1)	4	---	1	---	r 48	1,085	r 1	(1)	4	(1)	2	126	1,271
Indonesia	---	---	(1)	---	---	---	---	213	(1)	---	(1)	---	1	21	235
Japan	306	11	181	---	22	2,191	r 5,330	1,817	r 3	13	37	4,722	12	127	r 14,772
Malaysia	---	(1)	5	---	(1)	---	(1)	262	(1)	---	2	---	1	11	281
Philippines	---	(1)	23	---	(1)	(1)	---	422	r 5	(1)	14	12	7	41	r 524
Turkey	---	98	1	---	3	---	---	520	1	---	1	---	3	39	666
Other	---	299	17	2	2	2	875	1,406	r 20	2	68	158	12	99	r 2,962
Total	306	408	231	2	28	2,193	r 6,253	5,725	r 30	15	126	4,892	38	464	r 20,711
Oceania:															
Australia	---	(1)	47	---	11	---	r 3	228	r (1)	(1)	60	238	574	58	1,219
French Pacific Islands	---	63	(1)	6	23	190	64	5	(1)	2	---	---	---	(1)	353
New Zealand	---	(1)	12	---	2	---	---	71	(1)	1	14	---	2	31	133
Other	---	---	(1)	---	(1)	---	---	3	1	(1)	---	---	---	---	4
Total	---	63	59	6	36	190	r 67	307	r 1	3	74	238	576	89	1,709
Grand total	1,004	3,820	1,545	154	166	5,042	r 15,052	14,191	r 356	7,511	r 1,650	13,263	1,944	1,333	r 67,031
Shipments from the United States to Territories and possessions:															
Puerto Rico	---	96	17	62	46	8	(2)	117	3	(2)	(2)	(2)	(2)	12	361
Virgin Islands	---	92	1	---	4	80	(2)	5	2	(2)	(2)	(2)	(2)	(1)	184
Wake	---	727	2	583	(1)	39	(2)	7	---	(2)	(2)	(2)	(2)	(1)	1,358
Other	---	72	(1)	35	4	169	(2)	8	2	(2)	(2)	(2)	(2)	(1)	290
Total	---	987	20	680	54	296	(2)	137	7	(2)	(2)	(2)	(2)	12	2,193
Exports from Territories to foreign countries: Puerto Rico	---	25	(1)	---	(1)	1,597	186	1	---	7	(1)	---	---	(1)	1,816
Total net shipments from the United States	1,004	4,782	1,565	834	220	3,741	r 14,866	14,327	r 363	7,504	r 1,650	13,263	1,944	1,345	r 67,408

1966:															
North America:															
Canada	2	224	536	1	48	1,144	5,090	1,511	80	175	128	2,368	83	181	11,571
Mexico	203	806	36	78	9	2,319	2,276	216	188	7,312	195	418	7	59	14,122
Netherlands Antilles	---	328	1	---	---	111	265	17	(1)	(1)	1	---	(1)	(1)	723
Other	---	27	24	29	2	352	284	348	17	71	119	1	115	39	1,428
Total	205	1,385	597	108	59	3,926	7,915	2,092	285	7,558	443	2,787	205	279	27,844
South America:															
Argentina	---	(1)	94	---	---	---	(1)	382	(1)	(1)	1	---	82	3	562
Brazil	---	(1)	24	---	12	---	(1)	1,192	24	1	90	50	37	89	1,519
Chile	---	(1)	(1)	---	1	---	(1)	156	26	---	37	---	2	21	243
Colombia	---	(1)	5	---	(1)	(1)	2	53	2	(1)	129	(1)	2	16	209
Peru	---	(1)	1	---	(1)	1	---	176	2	(1)	25	1	3	16	225
Venezuela	(1)	(1)	20	---	(1)	1	(1)	25	2	(1)	19	2	2	11	82
Other	(1)	1	2	---	(1)	---	(1)	155	5	---	46	18	2	15	244
Total	(1)	1	146	---	13	2	2	2,139	61	1	347	71	130	171	3,084
Europe:															
Belgium–Luxembourg	---	(1)	33	---	3	---	---	720	1	11	9	451	9	19	1,256
Denmark	---	(1)	(1)	---	(1)	---	---	82	(1)	(1)	10	(1)	3	10	105
France	(1)	5	63	(1)	(1)	(1)	43	63	17	(1)	48	835	445	6	1,525
Germany, West	---	45	258	---	23	193	92	214	1	2	294	1,157	22	14	2,315
Greece	1	93	1	---	(1)	1	(1)	16	(1)	(1)	1	141	(1)	2	256
Italy	---	223	15	---	1	18	247	268	16	1	86	1,432	403	18	2,728
Netherlands	---	254	93	---	(1)	1,049	(1)	193	2	1	46	1,554	316	35	3,543
Norway	(1)	---	12	---	(1)	---	---	44	(1)	(1)	1	1,026	2	7	1,092
Sweden	---	(1)	(1)	---	(1)	(1)	(1)	286	(1)	(1)	13	82	7	19	407
United Kingdom	431	3	332	1	9	129	997	932	7	580	71	223	364	47	4,126
Other	(1)	5	18	---	1	1	1	242	4	1	82	272	59	38	724
Total	432	628	825	1	37	1,391	1,380	3,060	48	596	661	7,173	1,630	215	18,077
Africa:															
Congo (Kinshasa)	(1)	---	2	---	(1)	---	(1)	42	2	---	4	---	2	2	54
South Africa, Republic of	---	(1)	47	---	3	1	210	622	5	3	110	1	11	62	1,075
United Arab Republic (Egypt)	---	---	3	---	3	---	---	94	---	---	---	---	---	27	127
Other	1	181	10	---	11	(1)	(1)	253	5	(1)	44	147	10	47	709
Total	1	181	62	---	17	1	210	1,011	12	3	158	148	23	138	1,965
Asia:															
India	---	(1)	1	---	3	1	2	1,485	3	(1)	3	---	7	114	1,619
Indonesia	30	(1)	---	---	(1)	---	(1)	233	(1)	(1)	(1)	---	1	23	287
Japan	808	3	254	---	65	684	3,674	2,023	2	8	50	5,595	190	127	13,483
Malaysia	---	(1)	(1)	---	---	---	(1)	23	(1)	---	2	9	(1)	5	39
Philippines	---	(1)	14	---	3	(1)	(1)	390	3	---	19	24	4	39	496
Turkey	---	45	2	---	3	---	1	476	1	(1)	1	---	7	45	581
Other	1	54	24	---	15	3	1	1,578	18	(1)	122	93	18	114	2,041
Total	839	102	295	---	89	688	3,678	6,208	27	8	197	5,721	227	467	18,546

See footnotes at end of table.

Table 67.—Crude petroleum and products exported from the United States by countries of destination and shipments to and exports from Territories and possessions—Continued

(Thousand barrels)

Country	Crude petroleum	Gasoline	Naphtha	Jet	Kerosine	Distillate oil	Residual oil	Lubricating oil	Asphalt	Liquefied petroleum gases	Wax	Coke	Petrochemical feedstocks	Miscellaneous products	Total
Oceania:															
Australia	1	(1)	45	(1)	12	---	4	182	1	2	58	335	470	61	1,171
French Pacific Islands	---	71	(1)	9	20	243	85	5	(1)	1	---	---	(1)	(1)	434
New Zealand	---	---	12	---	2	---	1	68	(1)	---	13	---	13	26	135
Other	(1)	1	(1)	---	---	---	---	2	(1)	2	---	---	---	---	5
Total	1	72	57	9	34	243	90	257	1	5	71	335	483	87	1,745
Grand total	1,478	2,369	1,982	118	249	6,251	13,275	14,767	434	8,171	1,877	16,235	2,698	1,357	71,261
Shipments from the United States to Territories and possessions:															
Puerto Rico	---	813	25	6	(1)	---	(2)	155	29	(2)	(2)	(2)	(2)	16	1,044
Virgin Islands	10	37	1	9	1	43	(2)	8	11	(2)	(2)	(2)	(2)	(1)	120
Wake	---	999	---		2,588	59	(2)	---	---	(2)	(2)	(2)	(2)	---	3,646
Other	---	79	---		128	288	(2)	---	---	(2)	(2)	(2)	(2)	---	495
Total	10	1,928	26	2,732		390	(2)	163	40	(2)	(2)	(2)	(2)	16	5,305
Exports from Territoties to foreign countries: Puerto Rico	---	167	(1)	---	(1)	2,299	406	(1)	---	8	---	---	(1)	(1)	2,880
Total net shipments from the United States	1,488	4,130	2,008	3,099		4,342	12,869	14,930	474	8,163	1,877	16,235	2,698	1,373	73,686

[r] Revised.

[1] Less than ½ unit.

[2] Not separately classified.

Table 68.—World production of crude petroleum by countries

(Thousand barrels) [1]

Country	1962	1963	1964	1965	1966 [p] [2]
North America:					
Canada	244,139	258,435	[r] 274,626	[r] 292,308	321,417
Cuba [e] [3]	90	72	264	264	264
Mexico	111,830	114,867	115,576	117,959	121,149
Trinidad	48,876	48,678	49,731	48,859	55,603
United States	2,676,189	2,752,723	2,786,822	2,848,514	3,027,763
South America:					
Argentina	98,154	97,221	100,370	98,262	102,890
Bolivia	2,917	[r] 3,404	[r] 3,290	3,357	6,085
Brazil	33,401	35,714	33,310	34,342	42,446
Chile	11,689	13,206	13,687	12,704	12,428
Colombia	[r] 51,908	60,343	62,596	73,196	71,400
Ecuador	2,573	2,465	2,796	2,850	2,660
Peru	21,134	21,468	23,119	23,068	23,027
Venezuela	1,167,916	1,185,511	1,241,782	1,267,602	1,230,464
Europe:					
Albania	5,238	5,009	5,096	[e] 5,338	[e] 5,338
Austria	16,694	18,271	18,571	19,908	19,228
Bulgaria	1,453	1,266	1,168	1,672	2,920
Czechoslovakia	1,200	1,220	1,322	1,404	[e] 1,400
France	17,071	18,117	20,428	[r] 21,700	21,365
Germany, West	48,943	53,325	[r] 55,419	56,945	56,832
Hungary	[r] 12,517	[r] 13,408	[r] 13,741	[r] 13,746	13,009
Italy	[r] 12,303	12,155	18,184	15,055	11,974
Netherlands	14,974	15,377	15,758	16,630	16,438
Poland	1,502	1,577	2,092	[r] 2,514	2,971
Rumania	88,420	91,171	92,383	93,693	95,588
U.S.S.R. [4]	1,359,600	1,504,300	1,643,500	1,786,000	1,948,000
United Kingdom	820	910	939	606	571
Yugoslavia	11,299	11,930	13,322	15,281	16,460
Africa:					
Algeria [5]	158,094	184,311	204,300	206,258	[e] 256,480
Angola	3,404	5,776	6,535	4,734	4,560
Congo (Brazzaville)	926	820	[r] 627	[r] 535	467
Gabon, Republic of	5,992	6,446	7,668	[r] 9,161	10,484
Libya	67,052	167,786	315,660	445,374	550,186
Morocco	968	1,140	910	782	783
Nigeria	24,624	27,913	43,997	99,354	152,428
Senegal	3	--------	--------	--------	--------
Tunisia	--------	--------	--------	--------	[e] 4,900
United Arab Republic (Egypt)	32,321	38,759	43,915	45,556	44,070
Asia:					
Bahrain	16,446	16,503	18,000	20,788	22,521
Burma	4,366	4,761	4,160	[r] 4,065	3,509
China, Mainland [e]	49,640	54,750	62,050	73,000	95,000
India	8,016	12,266	16,965	22,494	34,228
Indonesia	167,771	165,002	[6] 169,250	[6] 178,190	[6] 169,118
Iran	481,939	538,107	618,731	688,215	771,234
Iraq	366,832	422,581	461,961	482,461	505,428
Israel	1,126	1,091	1,440	1,469	1,365
Japan	5,316	5,485	4,590	4,944	5,435
Kuwait	669,284	705,471	774,815	791,903	830,537
Kuwait–Neutral Zone	89,224	114,535	[r] 131,415	132,285	153,419
Mongolia [e]	360	360	360	115	115
Pakistan	3,338	3,514	[r] 3,743	3,943	2,502
Qatar	67,911	[r] 70,158	[r] 77,885	84,215	105,945
Sarawak and Brunei	28,286	29,639	26,265	29,342	35,386
Saudi Arabia	555,056	594,592	628,095	739,078	873,349
Taiwan	14	19	61	131	226
Thailand [e]	50	45	45	40	40
Trucial States	5,976	17,571	67,465	102,804	131,531
Turkey	4,157	5,090	6,397	10,827	14,491
Oceania:					
Australia	--------	--------	1,491	[r] 2,622	3,390
New Zealand	4	4	4	5	4
West Irian	917	924	(6)	(6)	(6)
World total	[r] 8,882,263	[r] 9,537,562	[r] 10,308,692	[r] 11,058,467	12,012,821

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[e] Estimate. [p] Preliminary. [r] Revised.

[1] 42-gallon barrels.

[2] Compiled mostly from data available July 1967.

[3] Natural naphtha and gas oil.

[4] U.S.S.R. in Asia (including Sakhalin) included with U.S.S.R. in Europe.

[5] Including Sahara.

[6] Beginning May 1, 1963, West Irian transferred to Indonesia, production data for West Irian included for the years 1964, 1965, and 1966 under Indonesia.

PRODUCTION AND TRADE: Foreign Countries

Aden

Table 1.—Aden: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Salt ____ metric tons	78,000	86,360	81,280	72,481	72,283
Mineral fuels:					
Petroleum refinery products:					
Gasoline ____ thousand 42-gallon barrels	3,760	3,463	3,393	3,428	4,245
Jet fuel and kerosine ____ do	5,092	5,430	6,112	5,448	5,836
Distillate fuel oil ____ do	8,703	9,356	9,479	9,280	9,221
Residual fuel oil ____ do	21,258	25,327	23,584	24,991	23,832
Other refined products ____ do	3,617	3,262	4,083	4,354	4,377
Refinery fuel and loss ____ do	2,488	2,574	3,252	3,714	3,550
Total	44,918	49,412	49,903	51,215	51,081

Table 2.—Aden: Exports and reexports of mineral commodities [1]

Commodity	1964	1965
Nonmetals:		
Salt ____ metric tons	[e] 70,000	[e] 65,000
Minerals fuels:		
Gasoline ____ thousand 42-gallon barrels	4,663	3,161
Kerosine and jet fuel ____ do	4,898	4,795
Distillate fuel oil ____ do	6,686	7,033
Residual fuel oil ____ do	11,631	11,341
Other, including LPG and feedstocks ____ do	2,996	5,732
Bunkers ____ do	[r] 26,977	[e] 22,272

[e] Estimate. [r] Revised.

[1] Destinations not available.

Table 3.—Aden: Imports of selected mineral commodities

Commodity	1964	1965
Mineral fuels:		
Petroleum:		
Crude ____ thousand 42-gallon barrels	50,080	51,772
Refinery products:		
Gasoline ____ do	510	803
Kerosine and jet fuel ____ do	158	71
Distillate fuel oil ____ do	NA	667
Residual fuel oil ____ do	4,283	5,982
Lubricants [e] ____ do	12	12

[e] Estimate. NA Not available.

Afghanistan

Table 1.—Afghanistan: Production of selected mineral commodities

Commodity	1962	1963 [1]	1964 [1]	1965 [1]	1966
Metals:					
Beryl ---------kilograms---	---	---	500	---	---
Nonmetals:					
Barite ---------metric tons---	NA	r 1	2	e 2	---
Cement ---------thousand metric tons---	r 60	r 103	125	170	175
Lapis lazuli ---------kilograms---	[2] 2,823	5,421	5,000	8,550	10,030
Salt:					
Rock ---------thousand metric tons---	22	21	13	18	20
Other ---------do---	65	12	12	20	18
Total ---------do---	87	33	25	38	38
Mineral fuels: Coal:					
Bituminous ---------do---	r 112	98	113	146	141
Briquets e ---------do---	19	20	20	14	15

e Estimate. r Revised. NA Not available.
[1] Data for Afghan calendar year beginning March 21.
[2] Data for Afghan fiscal year, beginning Sept. 21.

Albania

Table 1.—Albania: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	[e] 1965	[e] 1966
Metals:					
Chromite	251,297	[r] 293,617	306,822	315,000	315,000
Copper:					
Ore, gross weight	135,972	[r] 143,839	[r] 144,673	[r] 150,000	150,000
Ore, metal content	2,600	2,600	2,600	2,600	2,600
Blister	1,860	[r] 2,040	[r] 2,204	2,000	2,000
Iron-nickel ore	425,047	[r] 259,052	[r] 350,741	370,000	370,000
Nonmetals: Cement	119,243	[r] 129,596	[r] 127,161	[r] 130,000	135,000
Mineral fuels:					
Coal, lignite ....thousand tons	[r] 301	[r] 252	[r] 292	[e] [r] 300	310
Petroleum:					
Crude ....do	786	[r] 751	[r] 764	800	800
Refinery products:					
Gasoline ....do	48	55	53	54	NA
Gas oil ....do	76	92	80	81	NA
Diesel oil ....do	2	2	2	2	NA
Unspecified ....do	356	327	341	343	NA
Total ....do	482	[r] 476	[r] 476	480	480
Electric power:					
Hydropower ..thousand kilowatt hours	118	168	203	220	220
Thermal ....do	124	90	77	80	80
Total ....do	242	258	288	300	300

[e] Estimate. [r] Revised. NA Not available.

Source: Vjetari Statistikor i R.P.Sh. 1965. (Statistical Yearbook of the People's Republic of Albania for 1965). Tirana, Albania 1965. 485 pp.

Table 2.—Albania: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal destinations, 1964
Metals:			
Chromite	247,800	310,700	Mainland China 83,500; Czechoslovakia 64,200; Poland 51,700; East Germany 44,000.
Copper blister	1,935	2,337	Mainland China 1,057; Hungary 323; East Germany 202.
Iron-nickel ore	80,200	461,900	Czechoslovakia 416,000; mainland China 45,900.
Nonmetals:			
Bitumen (natural asphalt)	11,400	10,200	Czechoslovakia 8,600; Poland 1,000.
Mineral fuels:			
Petroleum:			
Crude ....thousand tons	310	294	Mainland China 158; East Germany 103.
Refinery products ....do	196	242	Mainland China 77; Yugoslavia 28.

Source: Vietari Statistikor I.R.P.S.H. 1965—(Statistical Yearbook of the Peoples Republic of Albania for 1965). Tirana, Albania 1965, 485 pp.

Table 3.—Albania: Imports of selected mineral commodities

(Metric tons)

Commodity	1963	1964	Principal sources, 1964
Metals:			
Iron and steel:			
Pig iron	2,951	2,684	Poland 2,384; North Korea 300.
Steel, ingots	5,982	6,895	Mainland China 5087; Czechoslovakia 1,445.
Semimanufactures:			
Pipes, all kinds	16,755	10,849	Mainland China 3,924; Poland 2,707; Czechoslovakia 1,908; Rumania 1,593.
Other	42,193	26,062	Czechoslovakia 11,526; Poland 6,171; mainland China 3,128.
Total	58,948	36,911	
Nonmetals:			
Cement	41,900	39,500	Poland 17,900; Rumania 12,800; Bulgaria 4,400; Hungary 3,700.
Fertilizers, manufactured, all kinds	9,000	17,400	Italy 7,400; East Germany 6,500; Bulgaria 1,600.
Sulfuric acid	1,958	---	
Mineral fuels: Coke	5,486	10,178	All from Poland.

Source: Vietari Statistikor I.R.P.S.H. 1965—(Statistical Yearbook of the Peoples Republic of Albania for 1965). Tirana, Albania 1965, 485 pp.

Algeria

Table 1.—Algeria: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Unwrought	67	157	e 150	NA	NA
Semimanufactures, including alloys	350	261	e 200	NA	NA
Antimony:					
Concentrate	500	---	---	e 200	200
Metal content	135	---	---	64	e 65
Copper:					
Concentrate	2,900	3,745	3,900	3,660	e 3,600
Metal content	779	1,036	1,092	r 1,025	e 1,008
Refined, including alloys	2,025	1,370	473	e 400	NA
Iron and steel:					
Iron ore thousand tons	2,062	1,976	2,739	3,132	e 1,700
Pig iron	4,000	3,462	3,629	NA	NA
Ingots and equivalent forms	5,507	9,480	19,792	NA	NA
Semimanufactures, except castings and forgings	15,583	16,788	25,784	NA	NA
Castings and forgings	402	406	365	NA	NA
Lead:					
Concentrate	12,922	11,763	13,602	14,922	6,350
Metal content	9,040	8,020	9,548	10,445	e 4,200
Refined, including alloys	699	1,280	1,393	e 1,200	NA
Silver [2] thousand troy ounces	r 275	r 255	r 295	r 295	335
Zinc:					
Concentrate thousand tons	70	58	64	63	27
Metal content thousand tons	42	36	35	38	27
Other [3]	84	60	81	NA	NA
Nonmetals:					
Barite	27,582	29,412	29,633	42,767	e 75,000
Cement thousand tons	650	884	r 785	739	659
Clay, bentonitic	13,443	16,256	15,000	NA	NA
Diatomite	r 27,728	17,648	20,106	16,413	e 16,400
Fertilizer materials:					
Phosphate rock thousand tons	390	r 348	73	86	e 80
Superphosphate do	46	52	88	NA	NA
Other	744	2,171	e 2,000	NA	NA
Fuller's earth	38,442	81,608	52,923	59,895	e 60,000
Gypsum thousand tons	e175	e 175	e 175	e 175	e 175
Lime do	e 23	r 19	r 28	NA	NA
Pigments, mineral do	5	6	e 6	NA	NA
Pyrite do	43	38	61	57	e 50
Salt do	118	124	116	r 116	e 116
Stone, dimension thousand square meters	814	e 800	e 800	e 800	NA
Mineral fuels:					
Coal thousand tons	53	38	46	45	e 50
Coke (low temperature) e do	70	60	40	r 35	e 25
Fuel briquets do	e r 16	NA	NA	NA	NA
Natural gas, marketed million cubic feet	13,189	14,902	29,994	65,038	76,853
Natural gas liquids thousand tons	202	241	258	e 430	NA
Petroleum:					
Crude do	20,498	23,655	26,226	26,026	33,253
Refinery products: [4]					
Gasoline do	------	------	326	418	387
Kerosine do	------	------	141	193	173
Distillate fuel oil do	------	------	448	534	473
Residual fuel oil do	------	------	279	345	292
Liquefied petroleum gas (LPG) do	------	------	38	65	63
Total	------	------	1,232	1,555	1,388

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e Estimate. r Revised. NA Not available.

[1] In addition to commodities listed, Algeria produces other types of construction materials, but data on output are not available.

[2] Estimated recoverable silver content of lead and zinc concentrates.

[3] Undifferentiated metals produced in foundries.

[4] Production of Algiers refinery (Société Raffinerie Algérienne), which commenced operations in February 1964, totals do not include relatively small output of a field topping plant at Hassi Messaoud.

Table 2.—Algeria: Selected exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, unwrought and scrap	[1] 971	NA	
Copper:			
Ore and concentrate	4,082	[2] 3,673	All to West Germany.
Metal, all forms	[1] 1,577	NA	
Iron and steel:			
Ore and concentrate thousand tons	2,828	[2] 2,993	Italy 1,222; United Kingdom 1,010; Bulgaria 170; West Germany 163.
Scrap do	[1] 8	NA	
Semimanufactures	[1] 446	NA	
Lead:			
Concentrate	11,042	[2] 12,796	Italy 3,575; Morocco 2,592; West Germany 1,479; France 1,224; Belgium 1,224.
Unwrought and scrap	[1] 1,036	NA	
Zinc:			
Concentrate	62,584	[2] 67,673	France 35,842; Spain 13,237; Belgium 8,364; West Germany 5,152.
Scrap	[1] 241	NA	
Residues, metalliferous, nonferrous	[1] 108	NA	
Nonmetals:			
Barite	8,400	[2] 1,525	Nigeria 1,500; United Kingdom 25.
Cement	[1] 40,239	NA	
Diatomite	14,314	[2] 10,450	France 6,160; United Kingdom 2,042; Belgium 881.
Fuller's earth	14,705	[2] 13,610	France 8,240; Morocco 5,370.
Phosphate rock thousands tons	8	[2] 57	West Germany 36; France 18; Italy 3.
Pyrite	32,150	[2] 35,880	Italy 18,980; France 16,900.
Salt	[1] 34,243	NA	
Mineral fuels:			
Petroleum:			
Crude thousand tons	[1] 24,895	[3] 24,529	France 17,412; Other Common Market Countries 5,160; Other Europe 690.
Refinery products:			
Gasoline do	[4] 107	[3] 101	All to France
Kerosine and jet fuel do	NA	[3] 29	Do.
Distillate fuel oil do	[4] 461	[3] 340	Do.
Residual fuel oil do	[4] 144	[3] 123	Do.
Liquefied petroleum gas (LPG) do	[4] 17	[3] 20	Do.
Other do	[4] 4	—	Do.
Total do	733	584	

NA Not available.

[1] Source: Annuaire Statistique de l'Algerie, Nouvelle Serie ,Premier Volume, 1963-64, and Chambre Syndicale des Mines d'Algerie Compte-Rendu de l'Assemblee Generale Annuelle, June 1965.

[2] Source: Industrie Minière Exposé sur la Situation Générale de l'Algérie, 1965.

[3] Source: Activité De L'Industrie Pétrolière 1965 and 1966 (Activity of the Petroleum Industry, 1966) Comité Professionnel Du Pétrole (Paris), V. 1, 1966, pp. B.28 and E. 44.

[4] Data are based on European Economic Community foreign trade statistics and include only Algerian trade with the Community. Information, except as specified in footnote 1, is not available from Algerian sources.

Angola

Table 1.—Angola: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Copper:					
Mine	[r] 1,783	[r] 64	---	---	---
Smelter	[r] 796	[r] 102	---	---	---
Gold troy ounces	77	37	7	2	---
Iron ore thousand tons	752	638	899	815	791
Manganese ore	[r] 8,269	---	---	---	18,550
Nonmetals:					
Cement thousand tons	169	194	214	245	264
Diamond:					
Gem thousand carats	762	759	NA	878	964
Industrial do	319	325	NA	277	304
Total do	1,081	1,084	1,149	1,155	1,268
Feldspar	---	809	501	---	---
Gypsum	16,305	14,208	[r] 10,049	[r] 10,216	[e] 10,000
Mica, scrap and splittings	49	---	---	---	---
Salt thousand tons	60	69	81	59	61
Asphalt, rock	36,237	54,741	44,167	22,874	29,916
Mineral fuels:					
Coal	---	5,557	---	---	10,770
Petroleum:					
Crude	471,236	799,657	904,757	655,365	631,319
Refinery products:					
Gasoline	55,235	59,775	53,337	---	60,115
Kerosine and jet fuel	3,625	12,594	35,735	43,939	51,108
Distillate fuel oil	183,755	253,536	258,695	291,179	130,905
Residual fuel oil	89,447	117,773	142,480	173,635	341,888
Asphalt	2,130	6,071	7,264	10,478	10,869
Liquefied petroleum gas (LPG)	3,035	4,149	6,118	7,460	8,575
Total	337,227	453,898	503,629	526,691	603,460

[e] Estimate. [r] Revised. NA Not available.

Table 2.—Angola: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, mainly scrap	11	11	All to Portugal.
Copper, mainly scrap	111	[r] 257	Belgium - Luxembourg 136; South Africa 54.
Iron and steel:			
Iron ore	[r] 1,127,548	[r] 714,407	West Germany 505,381; Japan 175,768.
Scrap	5,297	4,149	South Africa 4,066.
Semimanufactures	78	4,054	Portugal 3,321; Mozambique 617.
Lead, scrap	317	177	South Africa 168.
Manganese ore	9,636	862	United States 608, United Kingdom 254.
Tin, scrap long tons	492	—	
Zinc, all forms	3	46	Congo (Kinshasa) 31; Portugal 11.
Ores, metallic, n.e.s	—	8	All to Portugal.
Metals, unwrought, n.e.s.	2	—	
Nonmetals:			
Cement	56,107	81,681	South Africa 39,614; Equatorial Customs Union[1] 18,750.
Clay and clay products:			
Mineral	—	10	All to Mozambique.
Brick, tile, etc.	56	39	Mozambique 37.
Diamond carats	1,095	1,157	All to Portugal.
Fertilizer materials:			
Mineral	—	606	Italy 441; Portugal 135.
Nitrogenous	—	20	All to South Africa.
Granite	86	253	Japan 108; Portugal 69; Belgium-Luxembourg 68.
Gypsum and anhydrite	5,682	5,566	All to Mozambique.
Lime	2	—	
Marble	281	900	Japan 295; France 173; Belgium-Luxembourg 75.
Refractory materials, bricks, tiles, etc.	—	1	All to Mozambique.
Salt	[r] 33,937	[r] 24,723	Congo (Kinshasa) 13,513; Rhodesia-Nyasaland 4,714.
Sand	—	135	All to Congo (Kinashasa).
Soda, caustic	5	—	
Nonmetallic minerals, crude, n.e.s.	10	—	
Mineral fuels:			
Coal, coke, and briquets	2,003	4	All to bunkers.
Petroleum:			
Crude	361,050	114,182	All to Portugal.
Refinery products:			
Gasoline	9,295	[r] 927	Congo (Kinshasa) 417; bunkers 292.
Kerosine and jet fuel	20,643	28,717	All to bunkers.
Distillate fuel oil	4,711	6,163	Bunkers 5,906.
Residual fuel oil	200,140	200,296	Bunkers 133,101; Portugal 58,154.
Lubricants	59	81	Mozambique 26; Portugal 23; Congo (Kinshasa) 16.
Liquefied petroleum gas	260	33,104	All to São Tomé and Príncipe.
Asphalt and bitumen	—	348	São Tomé and Príncipe 221; South Africa 50; United States 40.
Total	235,108	269,636	

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[r] Revised.

[1] A trade union comprising Cameroon, Central African Republic, Chad, Congo (Brazzaville), and Gabon.

Table 3.—Angola: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals [1]			
Aluminum	654	871	Switzerland 249, Belgium-Luxembourg 188; West Germany 170.
Chromium, oxide and hydroxide	6		
Copper	437	603	Federation of Rhodesia and Nyasaland 212; Portugal 191.
Gold troy ounces	24	322	All from Portugal.
Iron and steel:			
Iron oxide and hydroxide	96	131	Spain 68; West Germany 42.
Scrap	264	216	All from São Tomé and Príncipe.
Pig iron and ferroalloys	955	652	West Germany 321; United Kingdom 200.
Ingots and other primary forms	75	9	France 4; Belgium-Luxembourg 3.
Semimanufactures:			
Bars and rods	11,704	13,709	Belgium-Luxembourg 8,697; France 3,158.
Angles, shapes, and sections	3,366	5,648	Belgium-Luxembourg 4,198; West Germany 861.
Plate, sheet, hoop, and strip	8,995	11,981	Belgium-Luxembourg 5,084; West Germany 2,378.
Tubes, pipes, and fittings	4,416	5,977	Portugal 3,105; France 860; Belgium-Luxembourg 677.
Wire	1,134	1,205	Belgium-Luxembourg 485; Portugal 281.
Rails and accessories	2,813	4,408	United Kingdom 4,237.
Other	616	857	West Germany 245; United Kingdom 187.
Total	33,044	43,785	
Lead:			
Oxide	44	38	Portugal 20; Belgium-Luxembourg 8.
Metal	182	199	Belgium-Luxembourg 76; Portugal 63.
Magnesium	(2)	2	West Germany 1.
Mercury 76-pound flasks	2	105	Italy 100.
Nickel	2	2	Mainly from United Kingdom.
Platinum troy ounces	(2)	8	Portugal 7.
Silver do	3,719	5,424	Portugal 1,801; Switzerland 1,347; West Germany 1,286.
Titanium oxide	44	65	West Germany 49; Belgium-Luxembourg 15.
Tin long tons	28	37	Portugal 28.
Zinc:			
Oxide	60	45	Portugal 30; West Germany 6.
Metal	106	123	Japan 74; West Germany 14.
Metallic ore and concentrate, n.e.s.	25	8	Portugal 3; West Germany 3.
Metallic compounds, n.e.s.	5	19	West Germany 6; Portugal 4, Norway 3.
Metals, precious, colloids, amalgams and salts—kilograms	313	1,217	United Kingdom 1,006; France 85.
Metals,, n.e.s.	11	4	United Kingdom 3.
Nonmetals:			
Abrasive materials:			
Mineral, including pumice	12	16	Portugal 11.
Grinding wheels and stones	35	41	Portugal 35.
Asbestos	1,008	1,364	South Africa 704; Rhodesia 657.
Barite	2	804	Italy 800.
Borates, natural	(2)	2	United Kingdom 1.
Carbon black	33	40	United States 20; West Germany 19.
Cement	1,966	2,316	Portugal 1,980; West Germany 110.
Chalk	409	449	Belgium-Luxembourg 186; Portugal 168.
Clay and clay products:			
Mineral	191	434	Italy 200; Portugal 136.
Brick, tile, etc.	2,065	2,489	Portugal 2,359.
Diatomite	83	147	Portugal 70; United States 41.
Dolomite, calcined	5	10	All from Norway.
Feldspar	19	20	All from West Germany.
Fertilizer materials:			
Mineral	—	41	Nearly all from United Kingdom.
Manufactured:			
Nitrogenous	8,370	10,771	Portugal 5,806; United Kingdom 1,916; Netherlands 1,739.
Phosphatic	2,981	3,547	Portugal 2,282; South Africa 852.
Potassic	1,681	2,260	West Germany 1,253; Portugal 611.

Table 3.—Angola: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mixed	4,659	2,640	Portugal 2,486.
Ammonia	33	42	Portugal 28; Austria 5.
Granite	34	56	All from Portugal.
Graphite	1	1	Do.
Gypsum and anhydrite	93	134	Portgual 111; Belgium-Luxembourg 20.
Lime and limestone	20	16	Portugal 13.
Magnesite	10	3	West Germany 2.
Marble	287	207	All from Portugal.
Mica, unworked and worked ____Kilograms	1,076	18,033	United Kingdom 15,061; Norway 2,970.
Pigments, mineral	64	50	Portugal 45.
Potash, caustic	6	6	Belgium-Luxembourg 3; United Kingdom 2.
Refractory materials, brick, tile etc	539	639	Portugal 514; Denmark 99.
Salt	89	191	United States 163.
Sand	6	4	Portgual 3.
Soda, caustic	1,321	1,412	West Germany 437; Portugal 431; France 387.
Stone:			
Dimension, worked	11	68	Nearly all from Portugal.
Crushed or broken	12	146	Portgual 130; Belgium-Luxembourg 12.
Sulfur in all forms:			
Elemental	493	403	Nearly all from Portugal.
Dioxide	5	7	West Germany 5.
Sulfuric acid	2,384	1,419	Portugal 1,385.
Talc and steatite	45	52	Italy 21; West Germany 17.
Nonmetallic minerals, crude, n.e.s.	612	384	Portugal 284; Cape Verde (Senegal) 99.
Stones, precious and semiprecious, dust and powder__troy ounces	11,500	---	
Mineral fuels			
Coal and briquets	30,121	20,341	South Africa 10,868; Mozambique 9,301.
Coal tar and other distilled products	321	382	United Kingdom 336.
Coke and semicoke	9,737	[r] 763	South Africa 267; Rhodesia 265.
Petroleum, refinery products:			
Gasoline	[r] 12,497	[r] 8,544	Netherlands Antilles 4,042; Iran 1,799.
Kerosine and jet fuel	6,825	5,476	Netherlands Antilles 2,919; British Territories, Western Hemisphere 1,150.
Distillate, fuel oil	[r] 12,152	[r] 22,069	Netherlands Antilles 12,637; Iran 5,296; Kuwait, 4,022.
Lubricants	[r] 9,728	[r] 10,307	United States 4,685; United Kingdom 1,797; Netherlands 1,310.
Liquefied petroleum gas	49,252	340	Belgium-Luxembourg 170; Portugal 170.
Wax and jelly	74	110	Indonesia 50; United States 29.
Asphalt and bitumen	272	383	United States 133; West Germany 125.
Total	90,800	47,229	

[r] Revised.

[1] Scrap, unwrought, and semimanufactures, including alloys, unless otherwise specified.

[2] Less than ½ unit.

Argentina

Table 1.—Argentina: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 ^{p}
Metals:					
Beryl, about 11 percent BeO	224	377	189	^{r} 225	250
Bismuth:					
Gross weight of ore kilograms	19,590	3,750	20	-------	NA
Metal content of ore do	^{r} 3,220	610	4	-------	-------
Columbite-tantalite do	240	600	-------	^{r} 267	1,000
Copper:					
Gross weight of ore	3,179	4,001	6,564	^{r} 11,154	5,000
Metal content of ore	405	391	345	^{r} 518	^{e} 500
Gold troy ounces	827	313	303	^{r} 84	55
Iron and steel:					
Iron ore thousand tons	123	100	95	^{r} 116	154
Pig iron and ferroalloys do	^{r} 407	^{r} 436	^{r} 604	^{r} 681	520
Crude steel:					
Ingots do	643	896	1,250	1,346	1,260
Castings and forgings do	16	17	17	^{r} 24	21
Total do	659	913	1,267	^{r} 1,370	1,281
Semifinished steel:					
Blooms do	46	108	299	172	NA
Billets do	375	433	504	767	NA
Slabs do	33	110	52	54	NA
Total do	454	651	855	993	NA
Steel semimanufactures:					
Angles and sections do	90	61	119	136	NA
Reinforcing bars do	175	138	212	285	NA
Wire rods do	172	209	252	231	NA
Rounds, squares, hexagonals do	48	36	81	96	NA
Flats do	73	49	95	113	NA
Sheets (hot rolled) do	35	143	400	498	NA
Hot strips do	78	66	76	70	NA
Seamless pipe do	89	62	84	93	NA
Other do	3	5	11	21	NA
Total do	763	769	1,330	1,543	NA
Lead:					
Gross weight of concentrate	38,382	34,235	33,911	^{r} 42,536	41,700
Metal content of concentrate	29,580	26,465	25,924	^{r} 32,236	31,499
Smelter production	24,500	24,000	23,000	32,000	22,000
Manganese ore:					
30 to 40 percent manganese	12,629	11,282	19,400	^{r} 20,363	28,000
Under 30 percent manganese	16,616	17,933	17,868	^{r} 8,751	
Total	29,245	29,215	37,268	^{r} 29,114	28,000
Silver thousand troy ounces	2,086	1,943	1,948	2,286	^{e} 2,000
Tin:					
Gross weight of concentrate long tons	1,378	1,311	1,929	2,775	2,657
Metal content of concentrate do	231	225	343	497	^{e} 480
Tungsten:					
Gross weight of concentrate	500	144	56	130	150
Standard 60 percent WO_3 equivalent of concentrate	562	167	61	^{r} 144	NA
Uranium:					
Gross weight of concentrate	943	4,669	21,757	29,604	398
Uranium oxide (U_3O_8) content of concentrate	4	8	34	^{r} 47	^{e} 50
Vanadium:					
Gross weight of concentrate	400	240	260	-------	NA
Metal content of concentrate	^{r} 14	^{r} 3	^{r} 3	-------	NA
Zinc:					
Gross weight of concentrate	60,230	56,189	45,261	^{r} 59,172	53,000
Metal content of concentrate	31,424	28,737	22,913	^{r} 29,679	30,000
Smelter production	16,771	19,700	22,200	23,600	22,283

Table 1.—Argentina: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals:					
Alabaster	952	430	353	338	270
Asbestos	184	331	492	220	[e] 220
Barite	12,536	22,997	14,505	15,031	[e] 15,000
Borates; tincal and ulexite	18,551	24,215	16,115	45,700	33,000
Cement thousand tons	[r] 2,927	[r] 2,535	[r] 2,891	[r] 3,305	3,492
Clays:					
Bentonite do	29	34	37	[r] 48	34
Foundry mold earth do	1	2	2	2	2
Fuller's earth do	4	5	4	[r] 6	5
Kaolin do	39	36	43	73	72
Refractory clay do	94	76	94	[r] 118	190
Miscellaneous do	268	234	289	[r] 453	473
Diatomite do	3,394	5,675	7,772	6,095	[e] 6,000
Dolomite	61,494	123,580	[r] 102,402	[r] 104,800	120,000
Feldspar	7,361	12,801	9,273	20,140	[e] 20,000
Fertilizer materials: Natural: Guano	182	811	180	120	[e] 120
Fluorspar	12,518	9,762	11,524	[r] 11,687	9,500
Garnet (almandite)	60	150	90	60	70
Graphite	[r] 474	278	222	[r] 183	140
Gypsum	214,989	196,098	[r] 154,542	[r] 235,312	200,000
Limestone thousand tons	7,045	6,549	6,598	[r] 7,169	7,600
Lithium minerals	450	1,436	725	622	280
Mica	49	89	[r] 675	[r] 223	588
Pigments, mineral: Ocher	129	70	25	48	65
Rhodochrosite, ornamental	-------	-------	-------	122	300
Salt:					
Rock thousand tons	1	3	2	3	2
Other do	556	272	391	[r] 732	775
Total do	557	275	393	[r] 735	777
Stone, sand and gravel, n.e.s.:					
Carbonate:					
Calcite	4,950	19,970	6,763	5,550	5,000
Calcium carbonate, natural	24,181	18,481	33,685	42,031	44,000
Marble and related materials:					
Aragonite	416	-------	-------	229	NA
Marble and crystalline limestone	10,689	21,632	12,116	[r] 11,882	14,000
Onyx	896	409	300	565	500
Travertine	2,794	4,356	3,387	2,656	2,300
Marble rubble	28,563	20,395	23,907	52,976	50,000
Silicate:					
Quartz thousand tons	[r] 32	30	21	36	31
Quartzite do	864	894	767	[r] 731	760
Sandstone do	35	29	26	22	19
Sand for construction do	3,711	5,867	5,203	[r] 5,726	5,700
High purity silica sand do	100	[r] 81	99	[r] 138	140
Other:					
Basalt and related rocks do	103	188	183	[r] 189	142
Granite and related rocks do	2,028	2,549	2,196	[r] 2,572	2,657
Serpentine	6,816	15,739	17,295	8,800	8,000
Slate	-------	600	81	8	20
Volcanic: ash, pumice and pozzolana	11,717	12,217	3,976	[r] 6,494	8,100
Rubble, coarse thousand tons	1,136	1,799	1,320	1,499	1,500
Strontium mineral: Celestite	-------	540	30	598	NA
Sulfur, elemental, refined [1]	22,661	22,696	22,307	23,766	30,422
Sulfates, hydrous:					
Aluminum (alum)	7,732	10,926	12,716	[r] 7,707	2,000
Iron (melanterite)	-------	-------	-------	900	NA
Magnesium (epsomite)	1,942	2,447	2,637	[r] 3,020	1,500
Sodium (mirabilite)	11,249	9,856	9,242	[r] 17,355	16,000
Talc, soapstone and pyrophyllite:					
Pyrophyllite	13,473	8,918	7,245	9,267	6,600
Steatite	200	3,080	6,409	1,350	1,500
Talc	15,035	16,063	11,144	[r] 15,663	19,000
Vermiculite	2,687	2,780	3,693	1,685	2,000
Zeolites	-------	70	80	63	25
Mineral fuels:					
Asphaltites:					
Raphaelite	1,972	2,557	1,969	354	842
Other	1,066	2,875	2,432	[r] 3,463	3,000
Total	3,038	5,432	4,401	[r] 3,817	3,842

Table 1.—Argentina: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 p
Nonmetals—Continued					
Carbon black	NA	5,815	11,400	14,500	NA
Coal, bituminous thousand tons	212	209	332	374	309
Coke: Oven and beehive do	347	315	451	461	e 460
Gas, natural (gross) [2] million cubic feet	218,300	213,241	232,714	220,511	NA
Peat	2,250	10,825	3,877	3,652	7,000
Petroleum:					
Crude thousand 42-gallon barrels	r 98,154	r 97,221	r 100,370	r 98,262	102,890
Natural gasoline do	86	1,098	896	1,160	NA
Refinery products:					
Aviation gasoline do	400	322	384	190	424
Motor gasoline do	23,563	22,048	24,148	30,581	27,800
Jet fuel do	492	609	779	943	985
Kerosine do	9,236	7,572	7,569	6,947	7,100
Distillate fuel oil do	14,973	19,368	17,958	28,643	26,600
Residual fuel oil do	39,429	36,804	46,868	52,906	54,400
Lubricants, including greases do	1,062	860	979	1,112	NA
Other liquid products do	8,020	8,086	4,585	3,828	NA
Petroleum coke thousand tons	(3)	(3)	351	356	NA
Liquefied gas do	(3)	(3)	317	323	NA

e Estimate. p Preliminary. r Revised. NA Not available.

[1] Excludes production from petroleum refineries.

[2] Converted from cubic meters to cubic feet at the rate of 1 cubic meter equals 35.315 cubic feet.

[3] Converted to barrels and included with other liquid products.

Australia

Table 1.—Australia: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Bauxite	30,021	359.891	854,606	1,176,372	1,823,800
Alumina	34,349	47,094	160,659	202,446	306,970
Refined metal	[r] 16,411	41.925	[r] 80,008	[r] 87,765	92,013
Antimony, metal content	67	75	277	[r] 35	100
Beryl	227	112	[r] 113	[r] 40	25
Bismuth (in ore) kilograms	44	---	---	---	---
Cadmium, refined metal	359	494	[r] 502	536	419
Chromite	375	163	73	---	---
Cobalt (in cobalt oxide)	[r] 15	17	17	18	18
Columbium and tantalum concentrate	20	14	15	10	5
Copper:					
Ore and concentrate (content)	108,689	114,780	[r] 105,720	[r] 92,324	106,589
Blister (primary)	88,739	89,912	[r] 81,882	[r] 74,592	91,702
Refined (primary)	80,725	85,734	83,568	[r] 60,918	90,277
Gold troy ounces	1,068,837	1,023,970	963,834	[r] 924,392	912,385
Iron and steel:					
Iron ore thousand tons	4,921	5,603	[r] 5,759	[r] 6,803	11,608
Pig iron do	3,489	3,658	4,050	4,291	4,743
Ferroalloys: [1]					
Ferrochromium, high carbon	580	1,112	2,480	1,358	NA
Ferro and silica manganese	22,393	38,937	47,297	56,901	NA
Ferrosilicon	7,557	8,435	5,095	4,475	NA
Steel ingots and castings thousand tons	[r] 4,238	[r] 4,653	[r] 5,102	[r] 5,500	5,890
Steel semimanufactures [1] do	2,716	2,869	3,606	4,656	NA
Lead:					
Ore and concentrate (content)	376,050	416,876	[r] 380,872	[r] 367,949	367,634
Refined (primary)	193,177	228,210	206,360	196,409	196,036
Bullion, for export	74,283	81,956	79,561	67,981	76,057
Manganese ore, all grades	72,796	36,640	[r] 62,090	[r] 103,557	282,462
Molybdenum, in ore and concentrate	1	6	---	12	[e] 3
Platinum, placer troy ounces	2	4	---	---	---
Selenium [e] kilograms	1,590	1,590	1,590	2,380	2,000
Silver:					
Ore and concentrate (content) thousand troy ounces	17,554	19,642	18,427	[r] 17,313	18,278
Refined do	7,378	8,887	9,258	8,502	8,864
Tin:					
Ore and concentrate (content) long tons	2,715	2,860	[r] 3,642	[r] 3,871	4,486
Smelter do	2,704	2,626	[r] 3,021	3,143	3,706
Titanium concentrates:					
Ilmenite	181,738	204,209	[r] 308,501	[r] 452,449	524,593
Rutile	121,108	186,201	[r] 185,298	[r] 218,399	248,725
Tungsten ores and concentrates (WO_3 content)	1,059	975	1,012	1,195	1,328
Uranium oxide (U_3O_8) [e]	[r] 1,200	[r] 1,100	[r] 380	335	300
Zinc:					
Ore and concentrate (content)	342,949	357,111	350,131	[r] 354,830	370,670
Smelter	170,623	182,662	[r] 188,509	[r] 202,182	197,530
Zirconium concentrate	135,991	187,797	[r] 187,037	[r] 227,978	240,794
Nonmetals:					
Asbestos:					
Chrysotile, fibre and fines	839	748	1,572	1,138	580
Crocidolite	15,868	11,385	[r] 10,716	9,428	11,642
Barite	12,735	8,352	12,499	10,515	11,685
Cement thousand tons	2,933	3,119	3,626	3,802	3,674
Clays:					
Bentonite and bentonite clay	797	1,555	1,015	1,209	NA
Brick clay and shale thousand tons	4,453	4,622	[r] 5,164	[r] 5,375	NA
Cement clay and shale do	316	225	282	260	NA
Fire clay do	200	208	225	237	NA
Kaolin and ball clay do	37	45	[r] 46	62	NA
Stoneware and tile clay do	343	423	494	471	NA
Other do	30	96	12		

Table 1.—Australia: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Diatomite	7,429	5,927	8,872	[r] 7,289	[e] 7,000
Feldspar	8,650	8,984	9,157	[r] 8,864	[e] 6,800
Fertilizer materials: Phosphate rock	4,455	5,004	5,780	[r] 4,592	[e] 4,600
Fluorspar	---	15	---	---	---
Fuller's earth	398	276	162	90	NA
Gem stones ----value, thousand US$	[e] 2,432	[e] 2,922	[e] 3,469	[e] 4,404	NA
Gypsum	641,036	[r] 737,087	[r] 807,763	[r] 846,898	804,000
Lime [2]	119,740	106,283	102,872	161,201	NA
Lithium, minerals [3]	137	438	264	315	948
Magnesite	63,189	57,860	31,752	[r] 25,769	[e] 10,000
Mica:					
Scrap	---	---	[r] 15	---	---
Damourite clay	493	500	576	[r] 685	[e] 700
Monazite concentrate	827	2,024	[r] 2,013	[r] 2,489	2,267
Pyrites, including cupreous pyrites	150,950	197,158	[r] 223,610	[r] 207,285	247,916
Salt ----thousand tons	544	[r] 591	554	[r] 665	[e] 665
Talc and soapstone	15,232	14,167	[r] 16,334	[r] 20,035	[e] 17,000
Mineral fuels:					
Coal:					
Bituminous [4] ----thousand tons	24,862	[r] 25,255	27,841	[r] 31,937	33,847
Lignite ----do	17,412	18,753	[r] 19,340	21,044	23,135
Coke:					
High-temperature ----do	2,818	2,896	3,092	[r] 3,096	3,235
Low-temperature [2] ----do	774	706	704	[r] 643	[e] 650
Fuel briquets ----do	1,816	1,917	1,885	[r] 1,935	[e] 1,600
Natural gas ----million cubic feet	56	96	106	144	143
Petroleum:					
Crude thousand 42-gallon barrels	---	---	1,491	[r] 2,622	3,890
Refinery products:					
Gasoline ----do	35,089	35,089	40,809	43,901	46,704
Kerosine and jet fuels ----do	3,448	3,673	4,459	4,224	5,778
Distillate fuel oil ----do	19,077	20,369	19,549	20,095	22,041
Residual fuel oil ----do	28,582	32,151	33,493	34,580	37,929
Lubricants ----do	106	551	1,400	1,805	1,868
Other products ----do	5,285	4,767	5,366	7,523	8,648
Refinery fuel and loss ----do	8,398	9,435	9,809	11,441	12,373
Total ----do	99,985	106,035	114,885	123,569	135,341

[e] Estimate. [p] Peliminary. [r] Revised. NA Not available.

[1] Ferroalloys and steel semimanufactures are reported for fiscal years ending November 30.

[2] Year ended June 30 of year stated.

[3] Petalite, amblygonite, and spodumene.

[4] Includes semianthracite and subbituminous.

Table 2.—Australia: Exports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1963–64	1964–65	Principal destinations, 1964–65
Metals:			
Aluminum:			
Bauxite	236,800	518,144	Japan 314,244; West Germany 182,182.
Scrap	364	598	Japan 353; West Germany 149.
Unwrought	5,271	22,313	United States 8,516; United Kingdom 5,414.
Semimanufactures	262	643	New Zealand 205; Philippines 141.
Beryllium ore and concentrate	118	87	All to United States.
Cadmium, refined metal [2]	372	380	United Kingdom 260; United States 56.
Copper:			
Ore and concentrate, gross weight	40,053	46,611	Japan 46,566.
Blister, cement, etc	989	169	Japan 107; Sweden 62.
Scrap	1,999	905	Japan 744; West Germany 97.
Ingots, blocks, billets	25,691	2,171	Japan 2,014; Netherlands 124.
Semimanufactures	3,971	3,304	New Zealand 3,171; Philippines 33.
Pipe, tubes, and wire	1,684	1,369	New Zealand 1,080; Ghana 132.
Gold:			
Ore and concentrate, content [3] troy ounces	r 50,683	49,869	NA.
Crude bullion, content do	562	157	New Zealand 127; Fiji 30.
Mint bullion do	449,003	576,575	Hong Kong 576,460; United States 100.
Sheet, strip, dust do	7,680	8,274	New Zealand 7,890; Fiji 219.
Iron and steel:			
Iron ore and concentrate	12,397	98,202	Japan 97,894.
Iron pyrites and cinder	108,428	75,098	All to Japan.
Scrap	357,258	374,404	Japan 349,763; Taiwan 13,897.
Pig iron	74,219	60,672	Japan 18,827; New Zealand 8,620; West Germany 8,238.
Steel ingots, blooms, slabs, etc	79,088	17,122	United Kingdom 14,423; Argentina 2,033; Japan 556.
Steel semimanufactures	368,571	347,979	Mainly to New Zealand.
Lead:			
Ore and concentrate, gross weight	120,379	103,569	United States 43,398; Japan 25,643.
Refined, unwrought	171,747	153,637	United Kingdom 84,906; United States 36,913.
Bullion, lead and silver-lead	84,669	59,156	United Kingdom 36,857; Netherlands 7,619.
Semimanufactures	9,100	5,570	New Zealand 1,423; United States 1,079.
Manganese ore	27,593	55,615	Japan 52,444; West Germany 3,138.
Platinum-group metals:			
Ore and concentrate, gross weight [4] kilograms	1,865	2,123	All to United Kingdom.
Platinum metals [4] troy ounces	548	1,262	United Kingdom 1,060; West Germany 143.
Silver:			
Ore, concentrate, crude bullion, content [3] thousand troy ounces	8,101	8,305	NA.
Mint bullion do	4,537	1,367	Undisclosed 985; United Kingdom 3.
Sheet, strip, dust do	33	92	New Zealand 89; United Kingdom 3.
Tantalite-columbite concentrate	20	48	United Kingdom 39; United States 8.
Tin:			
Ore and concentrate, gross weight long tons	34	1,254	United Kingdom 1,194; Spain 30.
Unwrought do	6	39	All to United Kingdom.
Titanium concentrates:			
Ilmenite, minimum 45 percent TiO_2	226,011	280,316	United Kingdom 160,830; Japan 50,065.
Rutile, minimum 90 percent TiO_2	159,791	245,548	United States 136,940; United Kingdom 19,812.
Tungsten concentrates:			
Wolframite	1,062	1,753	United Kingdom 584; West Germany 427.
	483	367	United Kingdom 139; United States 81.

Table 2.—Australia: Exports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1963–64	1964–65	Principal destinations, 1964–65
Zinc:			
Ore and concentrate, gross weight	231,256	206,317	United Kingdom 150,928; Belgium-Luxembourg 21,842.
Ingots, blocks, slabs, etc	84,874	86,016	United Kingdom 27,529; India 26,544.
Semimanufactures	1,984	2,228	Malaysia 763; India 712.
Other forms	138	135	Japan 50; New Zealand 47.
Zircon concentrate, minimum 30 percent $ZrSiO_4$	185,943	216,382	United States 57,350; Japan 28,866.
Nonmetals:			
Abrasives:			
Industrial diamond [4] carats	100,639	70,573	United Kingdom 29,248; United States 25,565.
Other natural abrasives	16	82	New Zealand 50.
Asbestos:			
Crocidolite	3,838	NA	
Other, amphibole and chrysotile	5	NA	
Cement, construction types	6,095	3,956	Christmas Island 1,880; Gilbert and Ellice Islands 753.
Clay, fire sillimanite and others	1,632	1,990	New Zealand 1,072; Japan 658.
Gem stones:			
Diamond [4] carats	1,357	3,006	Belgium-Luxembourg 1,524; United Kingdom 687.
Opal [4] value, thousand US$	6,427	5,551	Japan 3,017; Hong Kong 1,222.
Other, cameo, intaglio do	344	430	United Kingdom 179; France 72.
Graphite	4	20	NA.
Gypsum	183,925	169,228	New Zealand 109,498; Philippines 18,118.
Magnesite	743	2,614	France 1,419; United States 900.
Mica, crude	32	33	New Zealand 31; Fiji 2.
Monazite concentrate	2,325	2,172	United States 1,209; France 613.
Salt	109,070	113,463	Japan 94,829; New Zealand 14,229.
Stone, construction value, thousand US$	7	13	New Zealand 4; undisclosed 9.
Talc and steatite	5,166	5,135	West Germany 1,602; New Zealand 1,135.
Mineral fuels:			
Coal thousand tons	3,866	6,160	Japan 5,756; New Caledonia 213.
Coke and semi-coke	80,707	108,463	New Caledonia 76,921; New Hebrides 18,132.
Petroleum refinery products:			
Gasoline, total thousand 42-gallon barrels	1,861	483	New Zealand 415; Malaysia 40.
Kerosine and jet fuel do	292	507	New Zealand 290; Malaysia 103.
Distillate fuel oil do	3,819	1,891	New Zealand 984; United Kingdom 189.
Residual fuel oil do	7,923	5,369	Malaysia 3,228; Japan 1,253.
Lubricants do	426	461	Republic of South Africa 218; New Zealand 176.
Other products do	54	98	Mainly to New Zealand.

NA Not available.

[1] Periods shown are fiscal years July 1 to June 30.

[2] Data not available on quantities of cadmium exported in lead and zinc concentrates.

[3] Quantities given are for 1963 and 1964 calendar years, respectively.

[4] Includes reexports.

Table 3.—Australia: Imports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1963–64	1964–65	Principal sources, 1964–65
Metals:			
Aluminum:			
Scrap	2,120	1,001	New Zealand 277; Kenya 219.
Pigs, ingots, blocks, etc	3,026	331	Canada 71; United Kingdom 35.
Semimanufactures	1,233	1,602	United Kingdom 779; Canada 163.
Pipe, tubes, powder, wire	1,117	1,243	United Kingdom 332; United States 321.
Antimony:			
Ore and concentrate, gross weight	43	21	Republic of South Africa 20; mainland China 1.
Metal	842	255	Mainland China 189; Netherlands 41.
Bismuth metal	18	11	Mainly from United Kingdom.
Chrome ore and concentrate	16,719	29,388	Philippines 15,535; Southern Rhodesia 8,155.
Cobalt and cobalt base alloys	63	51	Zambia 21; Belgium-Luxembourg 10.
Copper:			
Scrap	283	534	Canada 211; United States 125.
Ingots, blocks, billets	5,118	18,621	United States 9,480; East Germany 6,295.
Semimanufactures	144	2,449	United Kingdom 966; United States 696.
Pipe, tubes, powder, wire	^{r} 300	506	United Kingdom 297; Canada 159.
Gold:			
Crude bullion, gold content troy ounces	148,968	128,778	Fiji 94,410; Papua-New Guinea 28,349.
Refined bullion	210	1,032	Japan 549; West Germany 290.
Iron and steel:			
Ore and concentrate, includes pyritic materials	278,643	281,950	New Caledonia 281,508.
Scrap	228	535	NA.
Ferroalloys:			
Ferrochromium	3,245	3,358	Southern Rhodesia 1,808; Republic of South Africa 751.
Ferromanganese	11,859	9,728	Republic of South Africa 5,793; India 1,938.
Ferromolybdenum	264	185	U.S.S.R. 102; United States 56.
Ferrosilicon	10,348	8,727	Republic of South Africa 7,289; Canada 925.
Ferronickel	NA	1,378	New Caledonia 1,289; United Kingdom 88.
Other	3,346	1,927	Republic of South Africa 826; Southern Rhodesia 422.
Ingots, blooms, etc	3,500	57,339	Japan 57,165; United States 102.
Semimanufactures	182,426	570,390	Japan 234,217; United Kingdom 117,695.
Lead and lead base alloys	239	447	New Zealand 317; United Kingdom 44.
Magnesium and magnesium base alloys	497	463	United States 226, Canada 160.
Manganese ore:			
Battery grade	3,471	8	NA.
Metallurgical grade	46,865	74,509	Republic of South Africa 42,443; New Hebrides 16,352.
Mercury 76-pound flasks	1,511	2,681	Spain 1,695; Italy 335.
Nickel:			
Matte and other crude forms	84	1,432	Canada 1,422; United Kingdom 10.
Pigs, ingots, granulated	962	1,272	Canada 524; United Kingdom 567.
Bars, rods, anodes, powder	624	568	United Kingdom 382; Canada 128.
Platinum-group metals troy-ounces	4,343	3,792	United Kingdom 3,379; New Zealand 201.
Silicon metal	1,594	638	Japan 339; Sweden 133.
Silver:			
Crude bullion, silver content troy ounces	102,453	89,417	Fiji 55,499; New Guinea 16,671.
Refined bullion do	11,546	2,807	United States 1,940; United Kingdom 800.
Tin and tin base alloys long-tons	1,325	1,788	Malaysia 1,774; United Kingdom 14.
Tungsten and tungsten base alloys	35	31	United Kingdom 14; West Germany 7.
Zinc and zinc base alloys	198	278	Australia (reimport) 155; United Kingdom 95.

Table 3.—Australia: Imports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1963–64	1964–65	Principal sources, 1964–65
Nonmetals:			
Abasives:			
Industrial diamond ___carats__	512,062	416,080	Republic of South Africa 243,059; United States 69,422.
Pumice and tripoli	1,675	1,573	New Zealand 815; United States 545.
Garnet	106	130	United States 128; United Kingdom 2.
Flintstone and pebbles	1,147	1,545	Canada 848; United States 242.
Asbestos:			
Chrysotile	25,963	31,358	Canada 30,532; United States 410.
Amosite	6,722	7,756	Republic of South Africa 6,808; Mozambique 354.
Other	3,290	2,582	Canada 2,271; U.S.S.R. 105.
Barite, ground and unground	NA	2,243	Mainland China 800; United States 600.
Boron minerals, crude and concentrate	991	1,313	United States 1,294.
Cement, construction types	28,097	62,430	United Kingdom 25,944; Japan 21,285.
Clays:			
Kaolin and pottery	21,236	20,924	United Kingdom 16,332; United States 4,461.
Fire and ball	6,803	8,101	Republic of South Africa 4,202; United Kingdom 2,656.
Bentonite	12,223	15,191	United States 14,682; United Kingdom 296.
Other	9,424	12,985	United States 10,023; United Kingdom 1,405.
Cryolite, natural and synthetic	4,477	3,532	United States 3,188; Denmark 343.
Diatomite	4,652	5,882	United States 5,571; United Kingdom 291.
Fertilizer materials:			
Phosphate rock thousand tons__	2,021	2,558	Australian territories 1,500; Ocean Island 555.
Nitrogenous, all types	137,092	85,481	United Kingdom 18,185; Italy 16,433.
Potassic, all types	98,226	110,773	United States 53,675; West Germany 32,076.
Mixed and other	17,562	42,198	Italy 21,484; West Germany 9,615.
Fluorspar	6,010	8,565	Republic of South Africa 5,437; United Kingdom 2,543.
Gem stones:			
Gem diamond ________carats__	29,783	35,237	Belgium-Luxembourg 10,996; Republic of South Africa 10,898.
Cameos ______value, thousand US$__	r 1,579	1,465	Australia reimports 881; India 158.
Graphite:			
Colloidal	131	95	Undisclosed 70; United Kingdom 25.
Flake	453	477	Ceylon 212; Malagasy 165.
Crystalline	157	176	Undisclosed 96; United Kingdom 80.
Amorphous	546	820	Ceylon 430; mainland China 159.
Iodine, crude	---	4	NA.
Iron oxide pigments	5,089	6,328	Spain 2,792; West Germany 1,661.
Kyanite	1,350	1,805	India 1,611; United States 194.
Lithopone	1,090	1,161	United Kingdom 593; West Germany 307.
Magnesite, crude, calcined and fused	50,857	42,342	Japan 21,456; United States 13,109.
Mica:			
Block or sheet	34	44	India 41; United Kingdom 3.
Splittings	111	143	All from India.
Ground and scrap	583	1,042	India 338; United Kingdom 170.
Phosphorus	468	887	Canada 640; United Kingdom 225.
Quartz crystals	96	44	United States 18; Brazil 1.
Salt	7,185	6,673	United Kingdom 6,316.
Sillimanite	449	341	India 187; Republic of South Africa 148.
Stone, construction _________value thousand US$__	613	562	Italy 461; Sweden 26.
Sulfur, elemental	309,189	380,824	Canada 178,483; United States 137,423.
Talc, steatite and chalk	2,675	2,378	Mainland China 1,760; United States 104.
Vermiculite	2,029	2,923	Republic of South Africa 2,734.

Table 3.—Australia: Imports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1963–64	1964–65	Principal sources, 1964–65
Mineral fuels:			
Asphalt, bitumen and pitch:			
Natural minerals	1,517	494	United States 325.
Petroleum derivatives	1,636	2,242	Taiwan 1,168; Malaysia 608.
Coal tar and coal tar pitch	7,677	12,257	United States 11,785; United Kingdom 472.
Carbon and carbon black	NA	4,056	United States 2,826; United Kingdom 841.
Coal	13,022	9,429	Republic of South Africa 6,620. United States 1,583.
Coke and semi-coke	37,882	52,316	United States 38,246; Netherlands 13,750.
Peat	1,013	1,414	West Germany 1,045; Ireland 244.
Petroleum:			
Crude ____thousand 42-gallon barrels__	109,014	117,986	Arabian States 64,556; Indonesia 29,675.
Refinery products:			
Gasoline ____do____	7,321	6,635	Iran 2,088; Venezuela 1,022.
Kerosine and jet fuel do____	2,067	1,911	Malaysia 639; Indonesia 389.
Distillate fuel oil __do____	1,014	1,472	Arabian States 563; Malaysia 363.
Residual fuel oil ___do____	568	700	United States 425; Arabian States 210.
Lubricants ____do____	1,395	926	United States 504; Netherlands Antilles 196.
Petroleum turpentine do____	395	202	Iran 92; United States 56.
Other products ____do____	509	464	Indonesia 175; Arabian States 143.

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r Revised. NA Not available.

[1] Periods shown are fiscal years, July 1 to June 30.

Austria

Table 1.—Austria: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite	16,961	17,830	3,708	----	----
Alumina	[e] 15,000	[e] 12,000	14,850	17,993	22,088
Metal and alloys:					
Primary, unwrought	74,088	76,464	77,697	78,735	78,927
Secondary and remelted, unwrought	31,880	34,736	39,241	31,072	22,224
Semimanufactures	31,896	30,723	31,983	32,281	33,898
Antimony:					
Ore:					
Gross weight	16,977	17,550	18,430	17,723	19,453
Antimony content	999	867	893	692	NA
Concentrates:					
Gross weight	1,044	750	798	653	NA
Recoverable content	696	497	531	394	227
Crudum (antimony sulfide)	300	[r] 431	411	380	551
Cadmium ---- kilograms	22,100	18,800	19,400	21,000	[e] 20,300
Copper:					
Ore:					
Gross weight (wet)	142,721	138,093	114,471	121,201	143,563
Copper content	2,035	1,933	1,613	1,576	NA
Concentrates:					
Gross weight	7,362	7,228	5,716	5,589	NA
Copper content	1,987	1,885	1,565	1,522	1,853
Copper sulfate	2,073	618	594	980	NA
Metal:					
Electrolytic	12,869	13,050	[r] 14,642	[r] 16,206	17,025
Other refined (including secondary)	2,038	2,832	2,882	1,986	1,036
Semimanufactures, copper and alloys	34,800	37,480	42,482	37,717	36,054
Germanium concentrates [1]; germanium content ---- kilograms	NA	NA	NA	NA	7,500
Iron and steel					
Iron ore:					
Gross weight ---- thousand tons	3,751	3,734	3,563	3,536	3,475
Iron content ---- do	1,164	1,180	1,128	1,110	1,095
Pig Iron ---- do	2,118	2,106	2,204	2,200	2,195
Ferroalloys ---- do	3	4	5	4	5
Crude steel:					
Linz-Donawitz ---- do	1,829	1,849	1,964	1,969	NA
Open hearth ---- do	814	747	823	840	NA
Electric ---- do	327	351	407	[r] 412	NA
Total ---- do	2,970	2,947	3,194	[r] 3,221	3,193
Sheet coils for rerolling outside of Austria ---- do	29	28	29	29	29
Semimanufactures except pipe and wire:					
Wire rod ---- do	216	220	236	259	255
Other bars and rods ---- do	388	296	403	[r] 445	469
Shapes, excluding rails ---- do	47	42	48	56	73
Heavy plates, including universal plates ---- do	389	303	312	298	284
Medium plates and sheets ---- do	57	58	79	65	72
Fine plates and sheets ---- do	398	497	520	429	426
Sheet coils, medium and fine ---- do	436	409	425	486	543
Hot strip ---- do	108	153	194	177	168
Rails and railway track material ---- do	58	54	59	69	56
Total finished steel	2,097	2,032	2,276	[r] 2,284	2,346

Table 1.—Austria: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Selected end products:					
Steel pipe and fittings do	47	48	62	60	58
Wire, single strand do	112	112	133	137	140
Rough forgings do	65	66	76	77	76
Lead:					
Lead and zinc ores:					
Gross weight, wet [2]	194,446	187,907	197,358	196,964	190,296
Lead content	5,981	5,529	5,924	5,891	NA
Lead concentrates:					
Gross weight	7,301	6,972	7,178	6,916	6,671
Lead content, recoverable	5,312	4,993	5,195	5,038	4,841
Metal and alloys:					
Primary, unwrought	8,404	6,426	8,496	7,694	7,173
Secondary, unwrought	3,768	3,356	4,810	5,292	4,689
Total	12,172	9,782	13,306	[r] 12,986	11,862
Semimanufactures	3,624	3,634	4,064	3,961	4,043
Manganese content of iron ores	71,200	71,600	68,786	67,456	69,500
Nickel sulfate	183	209	225	173	NA
Silver troy ounces	68,481	68,803	73,947	76,519	93,237
Tungsten:					
Ores:					
Gross weight, wet	12,959	7,222	5,269	5,682	6,342
WO_3 content	212	142	81	150	82
Concentrates 60 percent WO_3 basis	290	223	105	195	137
Zinc: [2]					
Zinc content of ores	8,853	9,170	9,763	9,547	NA
Concentrates:					
Gross weight	13,309	14,436	14,691	14,000	15,677
Zinc content, recoverable	6,590	7,091	7,261	6,903	7,773
Metal:					
Electrolytic, unwrought	12,088	11,861	12,896	13,113	14,201
Fire refined, unwrought	576	574	676	1,156	1,231
Total	12,664	12,435	13,572	14,269	15,432
Semimanufactures, including alloyed	1,428	1,589	1,525	1,778	1,627
Nonmetals:					
Asbestos	456	579	----	----	----
Barite	1,081	[r] 2,173	[r] 1,261	[r] 2,334	2,784
Cement thousand tons	3,057	[r] 3,312	3,769	[r] 4,044	4,501
Clays and clay products:					
China clay (kaolin) do	336	349	368	328	378
Bentonite do	3	3	3	4	2
Illite do	66	66	71	68	143
Other do	52	49	48	51	NA
Clay products:					
Refractory brick do	57	59	71	75	71
Building bricks million pieces	991	1,006	[r] 1,095	[r] 1,064	1,091
Roofing tile do	52	45	[r] 41	33	24
Diatomite	4,185	3,936	3,832	4,034	3,754
Feldspar	5,056	2,110	1,629	1,419	1,531
Graphite:					
Crude	89,282	99,589	102,237	85,755	79,539
Marketable:					
For direct consumption in blast furnaces	66,766	76,487	77,059	57,052	[e] 49,500
Foundry grade	20,478	21,525	22,457	24,346	19,898
Electrode grade	1,168	810	520	332	550
Flotation graphite mainly for fine grinding	170	256	518	857	923
Gypsum and anhydrite thousand tons	684	585	568	618	777
Lime:					
For construction do	570	575	[r] 608	[r] 584	580
For agriculture do	101	113	[r] 122	[r] 108	114
Magnesite:					
Crude do	1,607	1,313	1,657	1,816	1,615
Sintered or dead burnt do	484	411	522	566	491
Caustic calcined do	181	170	192	198	199
Magnesite and chrome magnesite refractories do	275	223	277	282	269
Mica	15	----	----	----	----
Pigments, (specular hematite)	3,308	4,120	4,304	5,283	4,780
Pumice	27,847	21,182	22,882	20,426	21,081
Quartz and quartzite	73,927	65,859	68,897	76,922	60,660
Quartz sand thousand tons	190	199	197	307	294

Table 1.—Austria: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Salt:					
Rock ----- do----	5	5	1	1	1
Evaporated ----- do----	147	166	167	186	185
In brine ----- do----	137	173	224	218	255
Total ----- do----	289	344	392	405	441
Sand and gravel ----- do----	NA	NA	NA	NA	4,750
Sand, industrial n.e.s. ----- do----	50	47	56	67	69
Stone:					
Building ----- do----	NA	NA	NA	NA	47
Crushed ----- do----	5,809	6,274	7,036	6,800	7,010
Sulfur, all forms -----	NA	NA	29,500	30,200	29,275
Talc and soapstone -----	75,771	65,644	71,872	75,902	76,303
Mineral fuels:					
Coal:					
Bituminous ----- thousand tons--	99	104	103	59	20
Lignite ----- do----	5,712	[r] 6,053	5,761	5,450	5,283
Total ----- do----	5,811	6,157	5,864	5,509	5,303
Coke:					
From coke ovens -- thousand tons-	[r] 1,655	1,634	[r] 1,608	[r] 1,548	1,474
From gasworks ----- do----	315	343	[r] 313	[r] 286	223
Total ----- do----	[r] 1,970	1,977	[r] 1,921	[r] 1,834	1,697
Gas:					
Natural:					
Wet ----- million cubic feet--	10,997	13,081	14,860	15,804	18,527
Dry ----- do----	50,030	50,340	50,983	48,540	47,635
Total ----- do----	61,027	63,421	65,843	64,344	66,162
Oil shale -----	616	325	45	580	320
Peat [e] ----- thousand tons--	5	5	5	5	2
Shale oil -----	29	11	2	11	NA
Shale oil products -----	107	90	71	84	NA
Petroleum:					
Crude ----- thousand tons--	2,394	2,620	2,663	2,855	2,757
Refinery products:					
Liquid petroleum gases - do----	36	39	67	81	NA
Gasoline ----- do----	[r] 278	374	514	644	701
Kerosine ----- do----	37	58	[r] 69	[r] 51	100
Gas-oil ----- do----	784	845	859	851	861
Fuel oil ----- do----	1,214	1,392	[r] 1,591	[r] 1,793	1,880
Lubricants ----- do----	119	111	[r] 192	[r] 185	214
Asphalt and bitumen --- do----	113	126	[r] 159	[r] 187	219
Other ----- do----	4	3	4	5	NA
Total ----- do----	2,585	2,948	3,455	[r] 3,797	NA

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[e] Estimate. [r] Revised. NA Not available.

[1] Byproduct of zinc refining.

[2] Zinc ores included in "Lead and zinc ores" shown under "Lead".

Table 2.—Austria: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	2,837	-----	
Aluminum oxide and hydroxide	10,945	14,986	Poland 4,804; United Kingdom 2,549; West Germany 2,132.
Metal and alloys:			
Scrap	4,277	4,439	West Germany 2,485; Italy 1,953.
Ingots and equivalent forms	33,861	31,971	West Germany 22,957; Greece 2,668; Poland 2,515.
Semimanufactures	22,074	17,831	West Germany 4,634; Bulgaria 1,712; Portugal 1,442; United States 1,439.
Antimony:			
Ore and concentrate	833	742	Belgium-Luxembourg 562; Italy 123.
Sulfide	317	202	West Germany 82; Brazil 34.
Cadmium metal, all forms	------	15,000	All to Czechoslovakia.
Chromite	645	854	West Germany 832.
Copper and alloys:			
Scrap	311	180	West Germany 144; Switzerland 20.
Unwrought:			
Blister and refined, unalloyed	2,751	4,573	West Germany 3,482; Switzerland 869.
Alloys	953	387	West Germany 324; Italy 51.
Semimanufactures	8,145	8,369	Sweden 2,361; Rumania 852; Denmark 703; France 459.
Gold:			
Bullion troy ounces	4,598	3,665	West Germany 2,122; Italy 1,093.
Semimanufactures do	3,665	3,183	West Germany 2,958; Yugoslavia 225.
Iron and steel:			
Iron ore and roasted pyrites	198	515	All to West Germany.
Ashes and residues thousand tons	60	107	All to West Germany.
Scrap do	4	4	
Pig iron [1] do	1	51	Poland 50.
Ferroalloys do	3	4	West Germany 1.
Steel:			
Ingots and other primary forms thousand tons	9	6	West Germany 3; Switzerland 1.
Coils for rerolling do	376	380	West Germany 334; Israel 20; Italy 12.
Semimanufactures:			
Iron and steel shapes do	154	163	West Germany 30; Switzerland 22; Bulgaria 19; Italy 18.
Plates and sheets do	495	466	West Germany 112; U.S.S.R. 109; Switzerland 37; Czechoslovakia 29.
Hoop and strip do	73	59	Switzerland 26; East Germany 7; Poland 7.
Railway track material do	25	31	Switzerland 14; Bulgaria 11; Rumania 2.
Wire (exclusive of wire rod) do	41	42	Hungary 9; West Germany 6; Italy 5.
Tubes, pipes and fittings do	32	36	West Germany 9; Switzerland 4; Poland 4; Sweden 3.
Castings and forgings, rough do	3	3	Switzerland 1.
Lead:			
Lead oxides	600	547	Czechoslovakia 404; Yugoslavia 140.
Metal and alloys, all forms	3,852	2,819	Italy 2,691.
Magnesium, all forms	310	422	West Germany 199; Italy 57; Netherlands 44.
Manganese:			
Ore and concentrate	10,100	-----	
Oxide	317	481	Brazil 240; West Germany 160.
Mercury 76-pound flasks	241	157	West Germany 90; Netherlands 35.
Molybdenum, all forms	243	240	West Germany 114; United Kingdom 82.
Nickel and nickel alloys:			
Metal and alloys, all forms	208	243	West Germany 142; Rumania 35.

See footnotes at end of table.

Table 2.—Austria: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Platinum group metals, all forms troy ounces	1,833	4,115	Rumania 2,122; West Germany 1,093; Italy 354.
Silver and alloys:			
Bullion thousand troy ounce	^{r}138	96	All to West Germany.
Semimanufactures do	^{r}42	32	Yugoslavia 6; Netherlands 6; Czechoslovakia 6.
Tantalum, all forms	4	3	United Kingdom 2.
Tin:			
Oxide long tons	129	70	Czechoslovakia 38; Poland 29.
Metal, all forms do	^{r}55	41	Netherlands 32; West Germany 6.
Tungsten:			
Ore and concentrate	81	192	All to West Germany.
Metal, all forms	85	87	All to West Germany.
Zinc:			
Ore and concentrate	1,587	53	All to West Germany.
Metal and alloys:			
Scrap	1,017	523	Yugoslavia 370; West Germany 124.
Unwrought	4,164	3,685	Italy 3,666.
Semimanufactures	^{r}532	25	West Germany 14; Yugoslavia 3.
Other:			
Nonferrous ores, n.e.s.	9,982	166	West Germany 104; Japan 42.
Silver and platinum ores	28	27	All to West Germany.
Ashes and slag, n.e.s.	4,239	12,415	Italy 4,274; Yugoslavia 4,244; West Germany 3,519.
Salts and compounds of unspecified rare earth elements	151	133	NA.
Metals and alloys, all forms, n.e.s.	27	41	France 21; Switzerland 10; West Germany 8.
Nonmetals:			
Abrasives, natural, n.e.s.	9	-----	
Asbestos:			
Crude	16	9	Switzerland 6.
Cement and cement products	10,688	13,591	West Germany 13,234.
Other asbestos products, excluding friction materials	1,924	2,597	NA.
Barite and witherite	6	-----	
Cement, hydraulic	60,813	34,441	West Germany 27,905; Switzerland 6,287.
Chalk	4,137	3,732	West Germany 2,422; Italy 683.
Clays:			
Bentonite	53	92	West Germany 76.
China clay	34,953	30,664	Italy 18,355; West Germany 6,280; Switzerland 4,319.
Fire and dinas clays	4,008	1,688	Italy 785; Hungary 642.
Other refractory clays	1,468	428	West Germany 323.
Cryolite and chiolite, natural	50	4	All to Mexico.
Diatomite and other siliceous earths	135	138	Bulgaria 82; Yugoslavia 24.
Diamond and other gemstones:			
Uncut thousand carats	30	20	All to West Germany.
Other	55	75	United States 50; Netherlands 15.
Dolomite:			
Crude	13,124	16,773	West Germany 16,753.
Sintered, including mortar	19,904	24,504	United Kingdom 16,070; West Germany 2,306; Argentina 1,909.
Other	746	651	France 160; United Kingdom 105; Hungary 100.
Feldspar	655	1,753	Italy 1,210; Switzerland 360.
Fluorspar	-----	39	All to Yugoslavia.
Graphite, natural	19,153	21,187	West Germany 9,758; Italy 9,018.
Gypsum:			
Crude and sintered	57,992	59,251	West Germany 49,399; Switzerland 9,652.
Gypsum products	575		
Lime, hydraulic and slaked	221	345	West Germany 251; Turkey 59.
Limestone, industrial	12,894	903,078	West Germany 903,057.
Magnesite:			
Crude	766	576	West Germany 454.
Sintered	236,966	275,262	West Germany 115,514; United Kingdom 20,987; France 17,605; Italy 11,887.
Caustic calcined	107,467	99,424	West Germany 80,683.

See footnotes at end of table.

Table 2.—Austria: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Bricks and plates	123,328	144,775	United Kingdom 23,577; West Germany 22,735; France 21,824; Sweden 17,998.
Other products, not burnt, including chrome-magnesite products	119,130	102,038	West Germany 32,680; France 15,276; Rumania 13,316.
Mica and mica products	16	19	Yugoslavia 12.
Pigments, mineral	2,572	3,226	West Germany 1,127; United Kingdom 1,039; Netherlands 340.
Quartz and quartzite	340	279	West Germany 146; Netherlands 117.
Rare earth metals, n.e.s. kilograms	-----	32,600	West Germany 19,100; Czechoslovakia 5,500; Sweden 2,000.
Refractories, n.e.s.:			
Heat insulating bricks	440	931	Iraq 334; West Germany 139; Czechoslovakia 111.
Fireclay bricks and tile	2,542	2,695	West Germany 611; Czechoslovakia 549; Iraq 470; Rumania 227.
Other	26	244	India 132; U.S.S.R. 37; West Germany 35.
Salt brine	3	1,220	All to West Germany.
Sand:			
Quartz	314	982	West Germany 546; Italy 221.
Other	80,283	54,226	West Germany 40,161; Switzerland 14,065.
Stone, except industrial limestone:			
Building and dimension:			
Marble and other calcareous	70,662	106,253	West Germany 96,181; Switzerland 9,968.
Granite, sandstone and porphyry	57,420	77,549	West Germany 76,464.
Slate	11	55	Hungary 52.
Crushed stone, gravel, macadam	387,466	189,873	West Germany 168,319; Switzerland 20,222.
Sulfur	-----	49	All to Hungary.
Talc and soapstone	55,796	60,490	West Germany 30,290; Italy 7,182; Belgium-Luxembourg 4,990.
Vermiculite and mineral wool	75,994	67,102	West Germany 64,674; Italy 1,974.
Nonmetals n.e.s.:			
Ceramic scrap	672	415	All to West Germany.
Other	1,045	493	West Germany 315; Italy 104.
Mineral fuels:			
Lignite and briquets	16,545	9,967	All to West Germany.
Coke	24	2,816	Yugoslavia 2,246; Rumania 505.
Gas, manufactured	85	113	All to Switzerland.
Peat	-----	95	Italy 68.
Petroleum refinery products:			
Distillate fuel oil	130,991	125,693	West Germany 66,226; Czechoslovakia 59,569.
Lubricants	77,082	73,118	Czechoslovakia 15,061; East Germany 11,563; Hungary 10,171; Poland 8,086.
Other	2,048	2,692	Czechoslovakia 1,599; West Germany 438; Switzerland 207.
Electric energy million kilowatt hours	3,570	4,486	West Germany 3,863; Yugoslavia 432; Switzerland 170; Italy 21.
Crude chemicals from the distillation of coal, petroleum and natural gas	4,841	2,899	West Germany 2,499.

NA Not available.

[1] Includes shot, powder and sponge.

Table 3.—Austria: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and aluminum alloys:			
Bauxite	16,857	22,865	Surinam 11,459; Yugoslavia 8,473.
Alumina	141,846	166,378	NA.
Aluminium hydroxide	5,693	6,049	West Germany 5,117; East Germany 880.
Metal:			
Scrap	171	863	Czechoslovakia 472; Hungary 276.
Ingots and equivalent forms	2,043	1,403	Hungary 1,327.
Semimanufactures	4,448	7,024	West Germany 2,902; Switzerland 2,799; Italy 313.
Antimony metal, all forms	164	95	Belgium-Luxembourg 80.
Arsenic oxides and acids	50	40	France 15; West Germany 10.
Beryllium metal, all forms kilograms	100	200	Nearly all from the United Kingdom.
Cadmium:			
Ingots and equivalent forms do	3,700	2,500	Belgium-Luxembourg 900; Netherlands 800.
Semimanufactures do	8,500	9,800	West Germany 9,500.
Chromium:			
Chromite	50,274	41,223	Turkey 25,939; Iran 14,578.
Oxides and hydroxide	137	163	West Germany 149.
Cobalt oxide and hydroxide. kilograms	3,200	2,600	United Kingdom 1,000; West Germany 900.
Copper and copper alloys:			
Ore and concentrate	275	692	All from Italy.
Metal:			
Scrap	4,593	5,313	West Germany 3,272; Switzerland 1,155.
Blister	6,040	5,384	Republic of South Africa 5,278.
Ingots and equivalent forms:			
Refined	18,343	17,464	West Germany 12,546; Rhodesia-Nyasaland 1,436.
Alloys, including master alloys.	485	688	West Germany 485.
Semimanufactures	4,179	4,816	West Germany 2,488; Switzerland 424; Italy 418; United Kingdom 411.
Gold and gold alloys:			
Bullion thousand troy ounces	686	987	United Kingdom 757; Switzerland 126; West Germany 74.
Semimanufactures do	2,443	804	All from West Germany.
Iron and steel:			
Ores and concentrates thousands tons	1,107	1,119	U.S.S.R. 364; Brazil 333; West Germany 261.
Roasted pyrites do	374	361	Italy 351.
Pig iron and castings [1] do	196	239	U.S.S.R. 97; Bulgaria 63; Hungary 36.
Ferroalloys:			
Ferrochrome do	15	15	Yugoslavia 3; Norway 2; Sweden 2; Italy 2.
Ferromanganese do	12	12	Norway 7; U.S.S.R. 2.
Ferrosilicon do	9	9	U.S.S.R. 3; Norway 2; Czechoslovakia 1.
Other do	5	10	France 4; Norway 4.
Scrap do	144	108	East Germany 55; West Germany 46.
Steel ingots and other primary forms. thousand tons	7	31	Czechoslovakia 13; Hungary 13.
Semimanufactures:			
Iron and steel shapes do	38	47	West Germany 33; Hungary 6.
Plates and sheet do	37	44	West Germany 15; Bulgium-Luxembourg 10; France 6.
Tubes, pipes and fittings do	76	77	West Germany 47; Italy 7; Sweden 7.
Other do	19	21	West Germany 11.
Lead and lead alloys:			
Ore and concentrate	5,440	4,350	All from Italy.

See footnotes at end of table.

Table 3.—Austria: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Lead oxide	153	142	West Germany 72; Yugoslavia 50; Mexico 19.
Metal:			
Scrap	457	497	Switzerland 362; West Germany 95.
Ingots and equivalent forms	12,220	12,440	Yugoslavia 8,757; Bulgaria 1,761; U.S.S.R. 919.
Semimanufactures	296	118	West Germany 83; Switzerland 32.
Magnesium:			
Ingots and scrap	503	521	Italy 505.
Semimanufactures and manufactures	r 7	16	Netherlands 11; West Germany 4.
Manganese:			
Ore and concentrate	631	964	West Germany 344; China Mainland 224; China Republic 122.
Oxides	140	237	Japan 191; Belgium-Luxembourg 30.
Mercury ---------76-pound flasks	386	679	Spain 377; Italy 168; West Germany 70.
Molybdenum:			
Oxides	300	400	West Germany 224; United States 141.
Metal, all forms	40	59	United States 24; U.S.S.R. 20; United Kingdom 7.
Nickel and nickel alloys:			
Matte speiss	391	369	United Kingdom 219; Canada 135.
Ingots and scrap	2,841	1,940	United Kingdom 1,635; Norway 108.
Semimanufactures	429	438	West Germany 259; United Kingdom 111.
Platinum group metals, all forms------------troy ounces	3,794	4,437	West Germany 3,987; United Kingdom 257.
Silver:			
Bullion ----thousand troy ounces	2,090	3,199	United States 2,003; West Germany 874; United Kingdom 305.
Semimanufactures ------do	158	154	West Germany 71; Switzerland 51.
Tantalum, all forms --kilograms	r 4,600	4,800	United States 3,600; Switzerland 800.
Tin and tin alloys:			
Unwrought, including scrap long tons	r 637	599	Netherlands 275; Mainland China 97; Malaysia 103; West Germany 95.
Semimanufactures -----do	37	31	West Germany 13; Switzerland 11.
Titanium oxide	4,892	4,810	West Germany 3,353; Netherlands 366; United Kingdom 344.
Tungsten:			
Ore and concentrate	3,280	3,352	NA.
Oxide and hydroxide	300	205	West Germany 119; France 86.
Metal, all forms	80	34	West Germany 12; United Kingdom 8.
Salts and compounds of uranium, thorium and rare-earth elements	949	289	India 251; West Germany 27; France 10.
Zinc:			
Ore and concentrate	13,580	12,620	All from Italy.
Oxide (zinc white)	520	452	West Germany 355; Netherlands 57.
Ingots and equivalent forms	8,426	7,403	Bulgaria 2,669; Poland 1,382; Yugoslavia 1,312.
Semimanufactures	510	557	Yugoslavia 316; West Germany 160.
Nonferrous ores and concentrates not elsewhere specified	3,980	5,166	Australia 2,450; United States 1,434; Canada 490.
Nonferrous ashes and residues not elsewhere specified	9,822	8,269	West Germany 3,973; Hungary 1,805; Czechoslovakia 1,275.
Other ashes and slags not elsewhere specified	569	899	West Germany 763; Yugoslavia 110.
Nonmetals:			
Abrasives:			
Natural:			
Dust and powder from gem stones thousand carats	2,005	10	West Germany 5; Switzerland 5.
Pumice	709	653	West Germany 449; Italy 204.

Table 3.—Austria: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Emery and corundum	116	99	Greece 53; West Germany 30.
Other	22	9	West Germany 6.
Artificial corundum	3,445	3,392	West Germany 2,956.
Asbestos:			
Crude	21,429	31,102	Canada 19,517; U.S.S.R. 6,271; Rhodesia-Nyasaland 2,473.
Cement and cement products	7,658	8,855	West Germany 7,877; Switzerland 510.
Other products, including friction materials	512	289	West Germany 145; Yugoslavia 66.
Barite and witherite	8,556	8,481	Yugoslavia 4,499; West Germany 3,294.
Boron salts, natural	5,534	5,124	United States 4,524; Turkey 600.
Cement, hydraulic	14,781	16,007	West Germany 4,874; France 3,862; Belgium-Luxembourg 2,939.
Chalk	522	1,122	France 455; West Germany 328.
Clays and refractories:			
Bentonite, not activated	13,822	18,100	Hungary 17,960.
China clay (kaolin)	12,978	19,077	United Kingdom 8,591; West Germany 5,267; Czechoslovakia 4,449.
Fire and dinas clays, crude	254	150	West Germany 131.
Crude refractories	5,953	7,844	Czechoslovakia 5,544; West Germany 2,298.
Andalusite, sillimenite, and other clays, crude or burnt	108,087	104,445	Czechoslavakia 64,266; West Germany 38,246.
Cryolite and chiolite, natural	441	416	All from Denmark.
Diatomite and other siliceous earths	1,668	2,190	United States 1,201; West Germany 725.
Diamond and other gem stones:			
Uncut thousand carats	9,440	4,825	West Germany 2,550; United States 1,720.
Industrial diamonds do	245	70	Belgium-Luxembourg 65.
Other gem stones, crude or cut but not mounted thousand carats	2,735	2,410	West Germany 1,685; India 380.
Dolomite, crude and sintered	3,184	3,107	Italy 1,973; Norway 689.
Graphite:			
Natural	222	298	West Germany 257.
Refractories	177	------	
Gypsum and anhydrite, crude and sintered	7,734	11,692	East Germany 7,124; Poland 2,114.
Lime, hydraulic and slaked	1,215	22	West Germany 20.
Limestone, industrial	380	4,560	Czechoslovakia 3,413; West Germany 1,043.
Magnesite:			
Crude	26,164	20,224	Turkey 20,221.
Sintered	1,276	17,453	Turkey 11,585; Greece 5,692.
Caustic calcined	610	219	Netherlands 180.
Magnesite and chrome-magnesite products, unfired	150	1,925	Italy 1,080; West Germany 116.
Mica:			
Crude and scrap	338	251	Norway 123; West Germany 51; United Kingdom 36.
Manufactures	29	18	Switzerland 11; United Kingdom 3.
Pigments, mineral:			
Ochre	240	175	France 165.
Other crude, burnt or mixed	87	84	United Kingdom 21; Hungary 20.
Phosphates:			
Phosphate rock:			
Crude	227,912	184,989	Morocco 179,110; United States 5,474.
Ground	42,234	47,190	West Germany 34,492; France 12,398.
Thomas slag	350,172	337,184	France 159,446; Belgium-Luxembourg 132,498; West Germany 39,354.
Other	10,493	14,408	Netherlands 14,130.
Potash:			
Crude salts	183,975	158,290	East Germany 158,216.
Potassium chloride	60,563	66,137	France 43,931; West Germany 15,910.

Table 3.—Austria: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Potassium sulfate	11,997	26,163	West Germany 17,753; East Germany 5,160; Italy 3,250.
Potassium-magnesium sulfate	34,447	31,315	All from West Germany.
Other potash fertilizers	16,627	22,328	U.S.S.R. 21,549; West Germany 779.
Pyrites, unroasted	30,091	27,680	U.S.S.R. 15,285; Greece 5,665; Italy 4,933.
Quartz and quartzite	14,302	15,233	West Germany 12,376; Yugoslavia 2,115.
Refractory products, not elsewhere specified:			
Dinas bricks	609	783	West Germany 754.
Bricks and plates of fire clay	10,615	12,053	West Germany 11,698.
Other forms or materials	3,542	1,177	West Germany 902; Poland 104.
Salt, including brine	91	63	Yugoslavia 24; West Germany 15.
Sand:			
Quartz	107,084	96,235	West Germany 54,454; East Germany 32,521.
Other industrial	29,943	39,932	West Germany 20,251; Netherlands 5,227; Belgium-Luxembourg 5,127.
Slate:			
Crude or rough cut	435	511	West Germany 365.
Slate products	51	188	Italy 152.
Stone:			
Dimension, except slate	32,788	24,613	Italy 12,757; Sweden 3,850.
Crushed stone and gravel	7,139	7,395	Italy 5,295; Yugoslavia 1,397.
Sulfur:			
Elemental	90,083	113,670	United States 53,196; Poland 26,397; U.S.S.R. 11,755.
Sublimed	72	348	United States 284; West Germany 50.
Talc and soapstone	897	1,797	Italy 856; China Mainland 330; Norway 308.
Trass	4,562	1,177	All from West Germany.
Vermiculite and mineral wool	887	1,383	West Germany 1,009; Yugoslavia 131.
Other nonmetals, not elsewhere specified:			
Ceramic scrap	7,196	11,073	West Germany 9,804; Czechoslovakia 579.
Other	21,417	24,067	West Germany 18,239.
Mineral fuels:			
Coal and briquets:			
Bituminous and anthracite. thousands tons	3,835	3,628	Poland 1,497; West Germany 827; U.S.S.R. 813.
Subbituminous and lignite do	735	695	East Germany 376; West Germany 208.
Peat do	8	9	West Germany 7.
Coke and coke breeze do	909	965	West Germany 420; Czechoslovakia 246.
Natural asphalt, bitumen, etc. do	2	2	Trinidad 1.
Gas:			
Natural, include LPG	4,405	2,278	Yugoslavia 1,717; West Germany 374.
Manufactured	1,451	1,466	All from West Germany.
Petroleum:			
Crude and topped crudes. thousand tons	901	789	U.S.S.R. 457; Yugoslavia 186.
Refinery products:			
Gasoline do	476	467	Italy 239; Czechoslovakia 70; West Germany 52.
Kerosine do	7	7	Italy 6.
Distillate fuels do	81	104	Italy 85; Switzerland 17.
Residual fuel oils do	1,242	1,196	West Germany 267; Czechoslovakia 242; Italy 193; Hungary 137; Poland 137.
Lubricants do	50	51	Netherlands 20; West Germany 11; Italy 7; United Kingdom 7.
Mineral jelly and wax do	7	8	West Germany 4; East Germany 1.

Table 3.—Austria: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Other including products of coal, oil shale, bitumen, and asphalt:			
Nonlubricating oils, not elsewhere specified. thousand tons	89	64	Hungary 28; Yugoslavia 28.
Pitch and tar thousand tons	3	3	All from West Germany.
Pitch coke do	15	14	All from West Germany.
Petroleum coke do	11	7	All from West Germany.
Petroleum and shale oil residues. do	116	135	Italy 61; Hungary 35; West German 23.
Bituminous mixtures do	2	2	All from West Germany.
Electric energy million kilowatt hours	281	205	Switzerland 202; West Germany 3.

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[1] Includes spiegeleisen, shot, powder, and sponge.
[r] Revised. NA Not available.

Bahrain

Table 1.—Bahrain: Production of mineral commodities

(Thousand 42-gallon barrels)

Commodity [1]	1962	1963	1964	1965	1966
Crude petroleum	16,446	16,503	18,000	20,788	22,521
Refinery products:					
Gasoline	16,815	16,361	16,704	14,876	14,505
Jet fuel	5,972	5,138	6,580	8,431	9,456
Kerosine	4,532	4,228	3,469	3,171	2,763
Distillate fuel oil	20,410	19,804	15,764	12,772	12,777
Residual fuel oil	34,827	33,362	27,682	27,534	29,479
Other	379	187	740	837	265
Total	82,935	79,080	70,939	67,621	69,245
Refinery fuel and loss	5,745	5,608	8,361	6,737	4,233

[1] In addition to commodities listed, small amounts of construction materials are produced, but quantitative data on output are not available.

Table 2.—Bahrain: Imports, exports, and bunker deliveries of crude oil and petroleum refinery products [1]

(Thousand 42-gallon barrels)

Commodity	1964	1965	1966
Imports:			
Crude oil	57,231	50,025	49,412
Petroleum refinery products:			
Gasoline	1,159	1,178	1,718
Lubricants	5	11	8
Exports:			
Petroleum refinery products:			
Gasoline	16,544	14,836	14,393
Jet fuel	6,429	8,310	9,597
Kerosine	3,247	3,244	2,902
Distillate fuel oil	15,454	12,222	13,146
Residual fuel oil	21,597	21,625	22,819
Other	630	827	596
Total	63,901	61,064	63,453
Bunker deliveries:			
Distillate fuel oil	206	269	267
Residual fuel oil	6,066	5,741	6,197

[1] Data on origin of imports and destination of exports not available.

Belgium

Table 1.—Belgium Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Secondary	2,842	3,547	3,460	3,192	2,545
Semimanufactures	80,736	86,232	123,456	135,538	172,487
Cadmium (exports)	840	881	843	385	146
Copper:					
Refined, including secondary	221,434	271,444	286,129	309,356	303,427
Semimanufactures	114,240	124,080	153,852	168,470	146,681
Sulfate [e]	15,000	13,000	NA	NA	NA
Iron and steel:					
Iron ore thousand tons	81	96	61	91	124
Pig iron and ferroalloys do	6,749	6,915	8,047	8,366	8,230
Steel:					
Ingots and castings [r] do	7,362	7,528	8,731	9,169	8,917
Semimanufactures do	5,499	5,769	6,475	6,947	6,865
Lead:					
Smelter, including secondary	93,151	98,433	83,316	110,757	92,659
Semimanufactures	27,828	26,844	25,980	26,633	25,923
Precious metals:					
Unworked [1] thousand troy ounces	12,325	12,965	13,622	14,163	14,499
Semimanufactures do	609	609	668	803	867
Tin:					
Smelter, including secondary long tons	9,505	8,280	6,804	5,227	6,576
Semimanufactures do	492	689	787	700	1,100
Titanium dioxide [e]	10,000	12,000	NA	NA	NA
Selenium (exports)	13	25	40	42	41
Zinc:					
Smelter, including secondary	206,156	206,328	222,540	239,800	251,700
Semimanufactures	45,700	43,800	46,300	[e] 46,200	[e] 46,600
Other nonferrous metals [2]	4,811	4,418	4,222	4,348	4,608
Nonmetals:					
Cement thousand tons	4,788	4,709	5,846	5,905	5,796
Clays do	208	270	203	NA	NA
Dolomite:					
Raw do	586	649	908	860	804
Calcined do	296	321	337	315	319
Feldspar	156	NA	---	NA	NA
Fertilizer raw materials:					
Phosphates	12,482	13,335	22,055	[e] 22,000	[e] 22,000
Thomas slag thousand tons	1,368	1,337	1,622	NA	NA
Flint	8,034	12,004	14,924	NA	4,851
Lime [3] thousand tons	2,036	2,016	2,299	2,292	2,232
Plaster	79,900	77,274	91,236	74,919	77,124
Quarry products:					
Limestone thousand tons	5,320	8,127	9,899	10,205	11,347
Other calcareous [4] do	876	829	1,010	1,069	1,015
Marble:					
In blocks cubic meters	5,144	6,946	7,272	7,098	7,406
Slabbed, including worked [5] cubic meters	9,091	9,150	11,280	11,540	11,910
Crushed and other	26,150	30,050	32,824	32,974	25,171
Petit granit (Belgian bluestone):					
Quarried cubic meters	336,386	311,391	409,602	326,826	288,552
Sawed do	64,875	28,908	104,633	77,483	80,000
Worked do	16,339	12,366	32,296	18,275	20,974
Crushed and others do	314,302	287,087	381,971	287,036	261,456
Porphyry, rough cut and crushed thousand tons	4,085	4,290	5,355	5,109	4,185
Quartz and quartzite	282,522	350,690	304,572	304,572	260,532
Sand and gravel:					
Construction sand thousand tons	3,174	3,082	5,171	4,254	4,375
Foundry sand do	1,039	1,137	1,379	1,266	1,161
Glass sand do	1,378	1,634	1,332	1,461	1,392

See footnotes at end of table.

Table 1.—Belgium: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals—Continued					
Quarry products—Continued					
Other sand, including dredged do	1,751	1,863	2,765	2,771	1,257
Gravel (dredged)	3,568	5,144	7,844	6,527	4,361
Sandstone:					
Rough stone, including crushed thousand tons	1,216	1,253	1,547	1,369	1,353
Paving and mosaic stone do	9	8	8	17	13
Other do	77	[r] 79	86	81	77
Slate, roofing and other	11,200	11,444	11,750	10,931	10,290
Whetstone	57	[r] 52	49	41	45
Sulfur:					
Recovered	2,000	5,000	5,000	NA	NA
Sulfuric acid, 100 percent- thousand tons	1,232	1,236	1,348	1,487	1,362
Mineral fuels:					
Coal:					
Anthracite thousand tons	5,751	5,986	6,062	5,438	4,952
Bituminous and semibituminous thousand tons	15,475	15,432	15,242	14,348	12,547
Briquets do	1,593	2,294	1,433	1,074	[e] 1,050
Distillate [6] do	282	282	299	[e] 301	NA
Coke (high-temperature) do	7,161	7,204	7,229	7,334	6,961
Methane (firedamp) [7] thousand cubic meters	70,176	70,248	66,180	79,068	NA
Manufactured gas [8] million cubic meters	3,619	3,756	4,001	4,109	NA
Petroleum refinery products:					
Aviation gasoline thousand tons	220	229	247	276	203
Motor gasoline do	1,307	1,482	1,617	1,930	1,955
Kerosine and jet fuel do	240	329	429	493	560
Distillate fuel oil do	2,545	3,762	4,162	4,759	4,779
Residual fuel oil do	2,615	3,952	4,283	5,351	5,685
Liquefied petroleum gas [9] do	253	336	373	449	510
Bitumen do	387	481	512	411	462
Lubricants do	30	31	37	44	39
Other do	358	785	914	1,087	1,555
Total	7,955	11,387	12,574	14,800	15,748
Refinery fuel and loss do	547	783	775	798	874

[e] Estimate. [r] Revised. [p] Preliminary. NA Not available.

[1] 80 to 90 percent silver.

[2] Includes antimony, cadmium, cobalt, nickel, and other unspecified metals.

[3] Not including annual production of artificial hydraulic lime (5,000 to 6,000 tons per year in 1962–63 and 8,582 tons in 1964).

[4] Including chalk, marl, and travertine.

[5] Converted from production data in thousand square meters of 20-millimeter slabs.

[6] About 98 percent crude coal tar.

[7] At 0° C., 760 millimeters of mercury, and 8,500 kilocalories per cubic meter.

[8] Coke oven and gas plant gas; gross output including gas for own consumption; includes gas produced from hydrocarbons.

[9] Including commercialized refinery gas.

Table 2.—Belgium-Luxembourg: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals: [1]			
Aluminum:			
Scrap	6,605	8,496	West Germany 5,540.
Ingots	1,074	2,358	West Germany 1,315.
Semimanufactures	84,357	93,390	United States 28,680; West Germany 13,168; Netherlands 12,680.
Antimony oxide	1,794	1,635	NA.
Bismuth [2]	149	85	NA.
Cadmium	843	735	NA.
Chromite	-----	11	NA.
Copper:			
Scrap	12,699	16,302	West Germany 6,955; France 3,583.
Refined	249,818	263,159	France 93,212; West Germany 54,199, Netherlands 39,357.
Semimanufactures	82,378	90,169	Netherlands 35,580; West Germany 25,179.
Germanium:			
Oxide kilograms	24,100	17,000	NA.
Metal do	6,100	6,300	NA.
Gold, including semimanufactures. thousand troy ounces	55	55	NA.
Iron and steel:			
Iron ore thousand tons	226	67	France 67.
Pyrite cinder do	188	199	West Germany 199.
Blast furnace slag and waste. do	2,126	1,879	West Germany 829; Netherlands 826.
Scrap do	617	720	West Germany 310; France 281.
Pig iron, including cast iron, sponge, powder. do	66	80	West Germany 34; France 31.
Ferroalloys, including spiegeleisen. thousand tons	43	47	United States 15; Italy 13.
Ingots and other primary forms. thousand tons	1,114	1,201	France 436; West Germany 298.
Semimanufactures:			
Shapes (bars, rods, angles, shapes, sections). thousand tons	4,020	4,377	United States 1,148; West Germany 745; Netherlands 539; France 349.
Universals, plate, sheet. thousand tons	2,304	2,679	West Germany 862; France 571; Netherlands 165.
Hoop and strip. thousand tons	748	739	West Germany 190; France 146; Netherlands 100.
Railway material. do	68	116	South Africa 32; Italy 15; West Germany 12.
Wire do	303	318	United States 98; West Germany 44; Netherlands 37.
Tubes, pipes, fittings. do	218	246	Netherlands 58; West Germany 36; United States 28.
Castings do	18	24	West Germany 8; Netherlands 5; Sweden 4.
Lead:			
Ore and concentrate	600	263	West Germany 263.
Ashes and residues containing lead.	2,845	2,103	NA.
Scrap	3,351	2,239	West Germany 1,242.
Pig	49,614	71,810	Netherlands 26,690; West Germany 22,606.
Semimanufactures	6,309	7,863	Netherlands 2,583; West Germany 1,324.
Oxides	3,735	3,663	Netherlands 2,790.
Magnesium [2]	440	451	United States 292.
Manganese ore	2,019	7,516	West Germany 5,515.
Mercury 76-pound flasks	290	319	Netherlands 290.
Molybdenum:			
Metal [2] kilograms	15,800	4,900	NA.
Nickel:			
Unwrought [2]	533	470	United Kingdom 153.
Semimanufactures [3]	118	166	West Germany 79; Iran 52.
Platinum and platinum-group metals all forms. value, thousands	$368	$1,025	NA.
Selenium kilograms	39,500	42,200	NA.
Silicon	400	700	NA.
Silver:			
Unwrought, partly worked. thousand troy ounces	10,870	8,131	West Germany 4,655; France 1,546.
Tantalum [2] value, thousands	$35	$157	France $78.

See footnotes at end of table.

Table 2.—Belgium-Luxembourg: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Tellurium and arsenic kilograms	1,000	4,800	NA.
Tin:			
Ore and concentrate long-tons	24	48	Spain 48.
Scrap do	317	223	Netherlands 108; West Germany 59.
Ingot do	4,574	4,110	France 1,804; West Germany 1,616.
Semimanufactures do	209	179	Spain 95.
Oxides do	245	198	West Germany 153.
Titanium dioxide	1,588	3,275	France 1,536; Netherlands 648.
Titanium, vanadium, molybdenum, tantalum, and zirconium ores.	8	59	United States 31.
Tungsten:			
Ore	6	25	West Germany 17.
Metal[2]	1	3	West Germany 2.
Oxide and hydroxide	NA	NA	NA.
Uranium and thorium:			
Ore kilograms	13,100	-----	
Metal[2] do	100	-----	
Other radioactive materials do	1,200	3,100	
Zinc:			
Ore	21,036	12,247	France 7,469.
Ashes and residues containing zinc.	14,095	19,987	NA.
Scrap	8,575	7,474	France 6,144.
Slab	126,742	129,656	West Germany 66,526.
Dust (blue powder)	16,136	16,436	West Germany 11,613; France 3,515; Italy 2,863.
Semimanufactures	16,392	17,223	West Germany 6,095; Netherlands 3,385.
Other nonferrous ores	1	9	Republic of the Congo (Kinshasa) 9.
Other nonferrous waste and scrap	110,127	170,151	NA.
Other base metals	7,985	10,305	NA.
Waste and scrap of precious metals. kilograms	800	NA	NA.
Nonmetals:			
Asbestos	130	-----	
Barite	194	212	NA.
Building stone:			
Marble and other calcareous stones. thousand tons	1,021	915	Netherlands 890.
Other, including worked. thousand tons	263	265	NA.
Cement thousand tons	1,435	1,726	Netherlands 1,185.
Chalk	76,646	77,866	Netherlands 40,826.
Clays, crude:			
Kaolin	72	406	France 19,983; Netherlands 16,908.
Nonrefractory	18,348	25,208	
Refractory	9,492	12,616	
Clay construction materials:			
Nonrefractory	236,109	212,406	Netherlands 114,580.
Refractory	41,073	45,068	France 23,884.
Diamond:			
Industrial, including worked. thousand carats	7,834	8,139	NA.
Gem:			
Rough do	1,109	1,235	NA.
Polished do	1,521	1,561	NA.
Diatomite	966	941	France 638.
Dolomite	496,803	551,458	Netherlands 347,532; France 155,956.
Feldspar, leucite, etc	86	42	NA.
Fertilizer materials:			
Nitrogenous:			
Sodium nitrate, natural	-----	-----	NA.
Manufactured. thousand tons	549	763	West Germany 144; Mainland China 107; France 98; United Arab Republic (Egypt) 42; India 41.
Phosphatic:			
Phosphate rock	29,088	31,203	Netherlands 10,608; France 7,952.
Thomas slag. thou. tons	1,797	1,873	France 596; West Germany 513; Netherlands 218.
Manufactured do	282	220	France 141; Finland 22.
Potassic:			
Potassium salts	12,843	322	NA.

See footnotes at end of table.

Table 2.—Belgium-Luxembourg: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Manufactured. thousand tons	967	923	United Kingdom 210; United States 142; Netherlands 75.
Fluorspar	-----	13	NA.
Graphite	45	8	NA.
Gypsum and plasters	15,849	16,464	Netherlands 15,075.
Lime	341,502	357,640	Netherlands 293,509.
Limestone	836,060	913,566	Netherlands 725,905.
Lithium minerals	-----	26	NA.
Mica	23	14	NA.
Precious and semiprecious stones (except diamond). kilograms	5,161	6,073	NA.
Quartz and quartzite	40,638	63,667	Netherlands 28,300; West Germany 11,057.
Salt	1,775	3,448	France 3,281.
Sand, gravel, crushed stone:			
Sand thousand tons	3,064	3,224	France 1,445; Netherlands 709.
Gravel and crushed stone. do	5,575	5,792	Netherlands 3,350; France 1,887.
Slate, including worked	4,265	5,104	West Germany 1,954; Netherlands 1,690.
Sulfur	7,809	8,084	West Germany 1,569; Kenya 1,556; Portugal 772; Pakistan 733.
Other mineral substances	93,861	86,547	NA.
Mineral fuels:			
Asphalt and bitumen (natural)	260	249	NA.
Coal, including briquets. thousand tons	2,575	1,978	France 770; Netherlands 633.
Coke (from coal) do	404	511	France 170; Sweden 139.
Pitch and pitch coke [4]	15,411	6,473	Netherlands 4,295.
Gas, petroleum and natural	47,509	50,404	Netherlands 22,189; France 21,422.
Peat, including briquets	337	195	NA.
Petroleum:			
Crude	29	-----	
Refinery products (including bunkers):			
Gasoline thou. tons	624	862	West Germany 286; United Kingdom 200; Netherlands 163.
Kerosine, including white spirit. do	403	442	Netherlands 231.
Distillate fuel oils. thou. tons	1,436	1,528	West Germany 431; Netherlands 367; Switzerland 363.
Residual fuel oils. do	2,178	2,148	Netherlands 335; United Kingdom 105.
Lubricants do	143	165	Netherlands 52; Switzerland 27; West Germany 15.
Petrolatum and wax	940	473	Nigeria 95; Turkey 95; Cameroon 78.
Petroleum coke	41,058	25,633	United Kingdom 13,897.
Liquefied petroleum gas and other gaseous hydrocarbons. thou. tons	48	50	Netherlands 22; France 21.
Bitumen and other [5] thou. tons	276	207	West Germany 102; Netherlands 82.
Carbon black	3,660	4,414	Austria 2,347.

NA Not available.

[1] Generally, includes alloys.

[2] Including scrap.

[3] Does not includes anodes, which are unreported.

[4] From coal and other mineral tars.

[5] Including bituminous mixtures.

Table 3.—Belgium-Luxembourg: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:[1]			
Aluminum and aluminum alloys:			
Bauxite	5,152	7,244	British Guiana 4,688.
Aluminum oxide and hydroxide.	12,225	11,117	West Germany 6,536; France 3,853.
Scrap	2,678	3,772	Hungary 980; East Germany 823; Netherlands 740.
Unwrought	112,633	117,020	France 92,536.
Semimanufactures	18,237	18,668	West Germany 8,456; Netherlands 3,571.
Antimony:			
Oxides	291	90	NA.
Metal	165	113	NA.
Arsenic:			
Oxides and acids	75	46	NA.
Beryllium, all forms kilograms	600	100	NA.
Bismuth[2]	72	38	NA.
Cadmium	226	332	NA.
Chromium:			
Ore and concentrate	1,435	987	Philippines 529.
Oxide and hydroxide	420	353	West Germany 203.
Metal	29	NA	NA.
Cobalt:			
Oxides and hydroxides. kilograms	200	500	NA.
Copper and copper alloys:			
Ore and concentrate	2,175	2,227	United States 785; Morocco 740.
Scrap	48,945	67,674	West Germany 18,273; Netherlands 17,100; France 11,014.
Ingot, including alloys	321,929	317,383	Congo (Leopoldville) 196,336.
Semimanufactures	8,433	9,024	Netherlands 2,870; West Germany 2,492.
Germanium[2]	36	26	NA.
Gold and gold alloys:			
Unwrought troy ounces	417,960	1,321,395	NA.
Semimanufactures do	35,366	16,075	NA.
Iron and steel:			
Iron ore and concentrate. thousand tons	12,897	13,745	Sweden 5,722; France 4,760.
Pyrite cinder	115,013	153,811	France 108,442.
Blast furnace slag and waste	233,817	235,359	France 127,638; West Germany 59,097.
Scrap	156,684	145,069	Netherlands 70,597; France 41,951.
Pig iron, including cast iron, sponge, powder, etc.	289,433	234,977	West Germany 99,200; East Germany 44,047.
Ferroalloys, including spiegeleisen.	126,288	119,426	France 55,603; Norway 36,186.
Ingots and other primary forms. thousand tons	592	433	Netherlands 148; France 122.
Semimanufactures:			
Shapes (bars, rods, angles, shapes, sections). thou. tons	323	353	France 160; West Germany 121.
Universals, plate, sheet. do	256	261	West Germany 116; France 94.
Hoop and strip do	26	28	France 12; West Germany 9.
Railway material. do	5	4	West Germany 2; France 1.
Wire do	11	11	France 5; West Germany 4.
Tubes, pipes, fittings. do	54	58	West Germany 23; Netherlands 17.
Castings do	2	3	Netherlands 1; France 1.
Lead:			
Ore	101,613	197,449	Canada 96,092; South Africa 67,987.
Oxides	1,176	1,489	France 537; Mexico 454.
Ashes and residues containing lead.	36,102	35,522	NA.
Scrap	17,721	20,965	Netherlands 6,704; Switzerland 3,679; West Germany 3,286.
Unwrought, including alloys	17,255	14,635	Netherlands 5,634; Mexico 2,167.
Semimanufactures	836	914	West Germany 731.
Magnesium:			
Scrap	296	387	West Germany 229; Netherlands 137.
Ingot	725	718	Norway 246; Italy 232.
Semimanufactures	38	48	Italy 21; United States 9.

See footnotes at end of table.

Table 3.—Belgium-Luxembourg: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Lead—Continued			
Manganese:			
Ore	271,087	310,369	India 81,581; Congo (Leopoldville) 80,534; South Africa 72,746.
Oxide	998	1,859	Netherlands 1,584.
Mercury 76-pound flasks	1,653	3,568	Spain 1,885; Italy 899.
Molybdenum:			
Metal including semimanufactures [2].	28	20	France 10.
Nickel:			
Matte, speiss	-----	28	United Kingdom 27.
Oxide and hydroxide	39	60	
Scrap	355	531	France 188; Hungary 129.
Ingot, including alloys	1,340	1,187	United Kingdom 967.
Semimanufactures	700	689	United Kingdom 187; West Germany 170; France 156.
Platinum and related metals, including rolled. troy ounces	25,721	57,871	NA.
Phosphorus	313	343	NA.
Selenium kilogram	700	300	NA.
Silicon	176	NA	NA.
Silver:			
Metal, unwrought and partly wrought. thou. troy ounces	7,530	7,787	United Kingdom 6,063.
Tantalum [2] kilograms	300	200	NA.
Tellurium and arsenic	28	33	NA.
Tin:			
Ore long tons	6,561	5,616	Congo (Leopoldville) 3,871.
Scrap do	15	1	NA.
Ingots, including alloys. do	3,171	2,380	Congo (Leopoldville) 1,424.
Semimanufactures do	130	152	Netherlands 73; West Germany 57.
Oxide do	26	25	West Germany 13.
Titanium dioxide	6,972	8,407	West Germany 4,480.
Titanium, vanadium, molybdenum, tantalum, zirconium ores.	1,523	3,904	United States 1,495; Australia 1,424.
Tungsten:			
Ore	3	43	United States 24.
Metal, including semimanufactures [2].	10	247	Congo (Leopoldville) 226.
Uranium and thorium:			
Ore kilograms	NA	22,000	NA.
Metal, including alloys. do	100	100	NA.
Other radioactive materials, including elements. do	8,200	NA	NA.
Vanadium pentoxide	984	409	NA.
Zinc:			
Ore	449,520	509,775	Canada 260,210; (Leopoldville) 78,177.
Ashes and residues containing zinc.	145,401	50,535	NA.
Oxide and peroxide	1,944	1,803	Netherlands 1,190.
Scrap	1,028	1,421	West Germany 618; East Germany 305.
Dust (blue powder)	855	235	West Germany 181.
Slab	26,132	12,281	Canada 3,052; North Korea 2,540; Mainland China 2,540.
Semimanufactures	119	164	West Germany 102.
Zirconium [2] kilograms	1,100	900	NA.
Other metals	7,925	8,292	NA.
Other ores	10,826	10,781	Morocco 4,257; Bolivia 4,137.
Other nonferrous waste and ashes	137,640	111,798	NA.
Alkaline and rare-earth metals. kilograms	20,500	35,000	Canada 30,000.
Nonmetals:			
Abrasives, natural	191,469	210,829	West Germany 209,661.
Asbestos	55,909	61,026	Canada 35,790; U.S.S.R. 10,280.
Barite, including witherite	23,839	25,641	West Germany 11,315; Morocco 6,726.
Borates, crude	937	1,508	Netherlands 981; United States 500.
Bromine Kilograms	16,700	13,600	NA.

See footnotes at end of table.

Table 3.—Belgium-Luxembourg: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Building stone:			
Marble and other calcareous stones.	79,895	103,428	France 42,286; West Germany 19,828.
Other, including worked	60,457	103,191	NA.
Cement	43,817	24,028	France 12,211.
Chalk	35,130	40,818	France 27,213.
Clays, crude:			
Kaolin	58,414	64,560	West Germany 169,861; United Kingdom 76,623.
Nonrefractory	130,286	153,528	
Refractory	136,345	143,729	
Clay construction materials:			
Refractory	80,785	78,748	West Germany 44,682.
Nonrefractory	132,035	117,270	Netherlands 64,551; West Germany 26,570.
Cryolite, natural	143	143	Denmark 137.
Diamond:			
Industrial, including worked. thou. carats	9,440	8,827	NA.
Gem:			
Rough stones do	5,080	5,764	NA.
Worked do	429	485	NA.
Diatomite	7,711	8,529	United States 2,829; Denmark 2,311.
Dolomite	16,640	19,017	West Germany 11,700.
Earth pigments	711	616	France 177.
Feldspar, including leucite, nepheline, etc.	30,910	30,400	NA.
Fertilizer materials:			
Nitrogenous:			
Sodium nitrate, natural	31,675	16,128	Chile 16,128.
Manufactured	114,111	151,347	West Germany 90,503.
Phosphatic:			
Phosphate rock. thou. tons	1,179	1,286	Morocco 1,065.
Manufactured	2,114	886	West Germany 501.
Potassic:			
Potassium salts	250,950	86,624	France 53,635; West Germany 31,071.
Manufactured. thou. tons	1,126	1,345	France 950; West Germany 228.
Unspecified manufactured	46,725	64,964	France 32,721.
Fluorspar	8,134	7,173	NA.
Graphite	1,013	901	Austria 333; West Germany 212.
Gypsum and plaster	430,009	440,384	France 404,100
Iodine, crude	NA	NA	NA.
Lime	83,767	94,937	France 87,545.
Limestone	69,557	68,794	France 68,420.
Lithium minerals	92	231	NA.
Magnesite	4,116	6,409	Brazil 3,000; Austria 1,100.
Meerschaum, including amber and jet.	11	42	Turkey 6.
Mica	1,057	1,371	India 370; United Kingdom 298; Norway 255.
Precious and semiprecious stones, natural:			
Dust and powder. value, thousands	$1,515	$1,894	Ireland $956; United States $443.
Other kilograms	3,322	6,110	NA.
Pyrites, unroasted	282,026	268,078	Portugal 176,430.
Quartz and quartzite	15,509	14,423	West Germany 6,988; Netherlands 2,496.
Salt	824,159	793,264	West Germay 407,497; Netherlands 313,852.
Sand, gravel, crushed stone:			
Sand thousand tons	6,321	6,345	Netherlands 5,939.
Gravel and crushed stone. do	2,994	3,554	Netherlands 1,713; West Germany 1,536.
Slate, including worked	15,133	17,105	France 8,390; Portugal 3,923.
Sulfur	213,972	274,393	United States 166,584.
Talc and steatite	16,958	16,243	Norway 4,833; Austria 4,741.
Other mineral substances	103,156	162,442	Netherlands 82,307; West Germany 55,461.
Mineral fuels:			
Asphalt and bitumen (natural)	5,051	3,453	United States 1,162; Trinidad 1,091.
Coal, including briquets. thousand tons	7,255	7,243	West Germany 3,174; United States 1,935.
Coke (from coal) do	4,313	4,064	West Germany 3,235.

See footnotes at end of table.

Table 3.—Belgium-Luxembourg: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Lignite, including briquets. do	227	199	West Germany 191.
Peat, including briquets do	41	44	Netherlands 31.
Pitch and pitch coke [3]	95,006	17,550	West Germany 8,286; Czechoslovakia 4,292.
Petroleum:			
Crude thousand tons	13,284	15,467	Iran 5,440; Kuwait 3,199; Libya 1,803.
Refinery products:			
Gasoline do	273	330	Netherlands 128; West Germany 80.
Kerosine, including white spirit. do	29	17	Netherlands 16.
Distillate fuel oils. do	1,165	1,531	Netherlands 457; Italy 383.
Residual fuel oils thous. tons	2,838	2,185	Netherlands 624; Italy 381; Netherlands Antilles 308.
Lubricants do	227	215	United States 74; Netherlands 51.
Petrolatum and wax do	9	9	West Germany 3; United States 2.
Petroleum coke do	83	86	United States 84.
Bitumen and other [4] do	70	98	NA.
Petroleum gases and other gaseous hydrocarbons. do	281	246	Netherlands 113; West Germany 66.
Carbon black	14,488	16,978	Netherlands 5,709; West Germany 4,673.

[r] Revised. NA Not available.

[1] Generally, includes alloys.

[2] Including scrap.

[3] From coal and other mineral tars.

[4] Including bituminous mixtures.

Bermuda

Table 1.—Bermuda: Estimated production of mineral commodities

(Metric tons)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Lime	140	120	100	100	20
Limestone:					
Crushed	NA	60,963	66,043	43,690	65,027
Dimension	NA		27,433	29,465	30,482
Rough	NA		NA	6,096	6,096
Sand:					
Crushed	NA	NA	NA	30,482	36,578
Natural	NA	5,080	7,112	40,642	40,642

NA Not available.

Table 2.—Bermuda: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Scrap, unspecified	1,925	229	Mainly to United States.
Mineral fuels:			
Petroleum refinery products:			
Gasoline:			
Aviation..thousand 42-gallon barrels..	256	224	All to bunkers and commercial.
Other ..do....	21	20	Do.
Kerosine ..do....	3	3	Do.
Jet fuel ..do....	535	474	Do.
Residual fuel oil	34,079	26,397	Do.

Table 3.—Bermuda: Imports of mineral commodities

(Metric tons unless otherwise specified [1])

Commodity	1964	1965	Principal sources, 1965
Metals:			
Iron and steel:			
Structural forms ____packages__	2,614	3,341	Canada 1,131; United States 1,113.
Nonmetals:			
Asbestos sheets ____packages__	6,105	7,644	Mainly from United Kingdom.
Bricks ____cases__	256	227	Canada 139; United Kingdom 57.
Cement:			
Colored ____bags__	1,653	1,223	All from United Kingdom.
Masonry ____do____	27,920	26,829	Mainly from United Kingdom.
Portland ____do____	530,128	549,736	Mainly from British West Indies.
Powder ____drums__	784	68	Mainly from United Kingdom.
Waterproof	83	98	Do.
Fertilizers	822	703	United Kingdom 234; Canada 177.
Gypsum plaster	611	311	All from United States.
Lime ____bags__	44,615	48,181	Mainly from United Kingdom.
Sand, gravel and similar material	25	8,546	Mainly from United States.
Stone chips ____bags__	10,906	2,423	All from United States.
Mineral fuels:			
Asphalt____thousand 42-gallon barrels__	12	7	Mainly from Venezuela.
Coal and charcoal	22	89	NA.
Coal tar and tar pitch ____drums__	4	2	All from United States.
Petroleum refinery products:			
Gasoline____thousand 42-gallon barrels__	480	429	Mainly from United States.
Kerosine ____do____	215	268	Mainly from Netherlands Antilles.
Jet fuel ____do____	163	362	All from Netherlands Antilles.
Distillate fuel oil	42,890	23,076	All from Venezuela.
Residual fuel oil	30,085	35,063	Mainly from Venezuela.
Liquified petroleum gas____cylinders__	1,200	1,895	All from United States.
Lubricating oil__thousand 42-gallon barrels__	7	5	Mainly from United States.
Greases	41	26	Do.
Other____thousand 42-gallon barrels__	33	33	Mainly from Venezuela.

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[1] Trade books do not specify weights or volumes of bags, cases, cylinders, drums or packages.

Bolivia

Table 1.—Bolivia: Approximate production of metals and minerals [1]

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Antimony, content of—					
Ore and concentrate	6,665	7,549	9,620	9,622	[2] 10,668
Metal [2]	---	---	[r] 38	6	[2] 27
Beryl [2]	79	---	30	---	
Bismuth, content of ore and concentrate ……kilograms	303,904	[r] 254,410	271,870	[r] 297,000	[2] 273,000
Cadmium, content of ore and concentrate ……do	---	---	---	5,740	[2] 2,400
Copper, content of ore and concentrate [2]	2,400	2,994	4,681	4,731	5,702
Gold ……troy ounces	35,034	153,019	128,576	94,314	86,982
Iron ore [2]	63	---	---	---	---
Lead, content of—					
Ore and concentrate	18,484	19,041	16,493	16,251	[2] 20,133
Refined metal and solder	125	254	461	936	[2] 1,129
Manganese, content of ore [2]	264	---	---	---	---
Mercury ……76-pound flasks	[2] 11	[2] 105	[3] 32	52	4
Silver, content of concentrate ……thousand troy ounces	3,884	4,443	4,517	3,955	[2] 5,124
Tin, content of—					
Concentrate ……long tons	21,271	22,209	24,319	23,036	[2] 24,763
Refined metal, solder dross [4] ……do	2,023	2,462	3,610	[r] 3,415	[2] 1,062
Tungsten concentrate, 60 percent WO_3 equivalent	2,482	2,194	2,006	1,820	[2] 2,633
Zinc, content of concentrate	3,634	4,229	9,592	13,321	[2] 16,702
Nonmetals:					
Asbestos	[2] 51	[2] 9	[3] 139	[3] 178	26
Cement ……thousand tons	49	62	64	60	60
Fluorspar [2]	---	---	9	---	---
Gypsum	---	[2] 200	[2] 700	[2] 475	[e] 64,000
Mica [2]	7	---	---	---	---
Salt [2]	NA	350	3,563	16,566	7,969
Sulfur [2]	7,363	9,950	10,806	9,455	57,461
Mineral fuels:					
Natural gas ……million cubic feet	[5] 5,110	[6] 3,853	[6] 4,145	[6] 3,454	3,795
Natural gasoline ……barrels	NA	[r] 25,160	[r] 64,321	54,605	68,861
Petroleum:					
Crude……thousand 42-gallon barrels	2,917	[r] 3,404	3,290	3,357	6,085
Refinery products:					
Motor gasoline ……do	1,028	1,009	[r] 1,116	1,182	1,352
Kerosine ……do	431	404	467	512	571
Distillate fuel oil ……do	439	424	[r] 506	596	613
Residual fuel oil ……do	633	594	790	819	865
Other ……do	65	205	[r] 13	49	17
Total ……do	2,596	2,636	[r] 2,892	3,158	3,418

[p] Preliminary. [r] Revised. NA Not available.

[1] COMIBOL production plus exports by small and medium mines and smelters unless otherwise noted. Figures differ slightly from those in commodity sections, which uses total exports as indicative of actual production.

[2] Exports by small and medium mines.

[3] Purchases by Banco Minero.

[4] Contains unspecified amount of tin reported also in tin in concentrates production.

[5] Gross production.

[6] Commercial production, processed for domestic fuel and for export.

Botswana

Table 1.—Botswana: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Metals:					
Gold ------troy ounces--	288	142	r 10	--------	--------
Manganese ore ------metric tons--	24,002	10,775	r 27,795	8,815	e 7,000
Silver ------troy ounces--	33	21	1	--------	--------
Nonmetals:					
Asbestos, chrysotile ------metric tons--	2,155	2,148	1,960	806	e 800
Talc ------do----	--------	--------	--------	48	--------

e Estimate. r Revised.

Brazil

Table 1.—Brazil: Production of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity[2]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite	190,708	169,636	131,650	155,968	[e] 238,000
Alumina	38,792	42,698	50,921	55,355	[e] 80,000
Metal, unwrought	20,141	17,610	26,640	29,590	[e] 35,000
Semimanufactures	3,105	20,471	2,734	25,451	[e] 41,400
Arsenic, white	149	293	188	256	[e] 250
Beryl (exports)	3,011	1,969	1,421	1,113	[3] 796
Chromite	24,839	[4] 17,053	[4] 9,440	[4] 16,960	[4] 14,964
Columbium and tantalum:					
Pyrochlore concentrate	102	--------	323	1,196	4,775
Columbite-tantalite concentrates:					
Columbite[5]	14	20	[6] 11	[6] 40	[3] 2,266
Tantalite[5]	125	111	[6] 82	[6] 165	[3] 130
Total	139	131	[6] 93	[6] 205	[3] 2,396
Ferrocolumbium	--------	--------	18	276	459
Copper:					
Ore:					
Gross tonnage	74,829	84,760	110,631	126,227	NA
Copper content[e]	1,600	1,500	2,000	[r] 2,000	2,000
Refined metal[e]	2,000	2,000	3,000	3,000	3,000
Gold bullion[7] thousand troy ounces	127	132	142	[r] 161	208
Iron and steel:					
Iron ore thousand tons	10,737	11,219	[r] 16,962	18,160	[e] 21,000
Pig iron[8] do	2,009	2,375	2,449	2,237	2,937
Cast iron do	371	342	334	NA	NA
Ferroalloys[9] do	41	47	42	51	NA
Ingot steel[8] do	2,565	2,824	3,016	2,983	3,767
Cast steel[8] do	34	41	40	41	[e] 50
Rolled steel do	[8] 1,911	[9] 2,321	[9] 2,422	[9] 2,161	2,886
Lead:					
Ore:					
Gross tonnage	204,193	240,282	236,144	266,919	266,500
Lead content[e]	15,200	17,400	14,700	16,600	22,400
Metal, primary, smelter	13,689	15,643	13,204	9,665	[p] 17,400
Manganese ore[10] thousand tons	1,171	1,254	[r] 1,352	1,396	1,239
Nickel:					
Ore, garnierite	15,852	52,997	54,494	59,311	[e] 70,000
Nickel content of ferronickel	240	1,030	[e] 1,000	1,114	[e] 1,000
Rare-earth metals and compounds:					
Monazite[11]	3,879	2,221	665	597	746
Rare-earth salts	[6] 1,063	[6] 865	[6] 899	[6] 4,329	1,977
Metals and alloys (exports)[12] kilograms	[e] 2,250	[e] 1,500	[e] 2,500	[e] 3,000	14,756
Silver bullion thousand troy ounces	250	281	305	[r] 284	305
Tin:					
Cassiterite concentrates:					
Gross tonnage long tons	1,219	1,922	[r] 1,215	2,788	2,850
Tin content[13, e] do	732	1,150	790	1,810	1,850
Metal, smelter do	1,835	2,051	1,731	1,753	1,506
Titanium ores:					
Ilmenite[14]	5,344	[r] 5,882	8,271	9,794	13,535
Rutile	352	389	286	360	[e] 350
Tungsten concentrate, scheelite:					
Gross tonnage	1,034	463	319	318	NA
60 percent WO_3 equivalent	1,241	[r] 555	383	382	[e] 400
Metal kilograms	NA	NA	NA	2,726	3,811
Zinc:					
Ore and concentrate	NA	NA	[5] 483	[e] 15,000	NA
Metal	--------	--------	--------	[e] 75	NA
Zirconium:					
Zircon	648	962	1,756	1,156	[14] 1,954
Baddelyite-caldasite	2,320	325	516	493	NA
Nonmetals:					
Agate, rough (exports) kilograms	276,187	219,006	337,654	446,074	596,470
Asbestos minerals[15]	4,400	[r,4] 1,306	[r,4] 1,300	[4] 1,092	[4] 1,651
Barite	54,650	34,111	33,537	[r] 64,360	[4] 40,228

See footnotes at end of table.

Table 1.—Brazil: Production of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Nonmetals—Continued					
Cement: [16]					
Portland, common ---thousand tons--	5,039	5,154	5,30	5,545	6,011
Portland, white --------------do----	33	30	34	32	34
Total --------------------do----	5,072	5,184	5,564	5,577	6,046
Corundum and emery, natural (exports)--	7	1	4	2	NA
Diamond:					
Gem [e] --------------------carats--	175,000	175,000	175,000	175,000	150,000
Industrial [e] ----------------do----	175,000	175,000	175,000	175,000	150,000
Diatomite [e] --------------------------	3,200	3,200	3,200	3,200	NA
Dolomite ------------------------------	421,327	477,805	330,387	223,209	[e] 200,000
Feldspar [e] ----------------------------	40,000	40,000	40,0000	40,000	40,000
Gem stones (exports) [17]-------kilograms--	397,389	417,799	702,534	762,293	710,090
Graphite ------------------------------	1,610	[e] 1,500	[e] 1,150	1,172	1,212
Gypsum --------------------------------	108,079	105,620	84,405	72,538	[e] 75,000
Lime ----------------------------------	1,186,211	1,207,952	1,438,098	1,219,607	NA
Lithium ores and compounds:					
Spodumene (exports) --------------	150	25	--------	6,815	NA
Lithium carbonate (exports) -------	19	--------	--------	--------	NA
Magnesite -----------------------------	93,756	90,298	93,740	124,642	[e] 200,000
Marble, dimension stone ---------------	59,393	53,011	50,952	46,500	NA
Mica, muscovite -----------------------	1,762	1,492	[6] 1,741	[6] 2,263	[e] 1,400
Nitrogenous fertilizers, manufactured:					
Ammonium nitrate ----------------	2,089	3,667	5,085	6,538	7,838
Ammonium calcium nitrate ---------	57,045	56,272	26,466	57,687	16,785
Ammonium sulfate ----------------	8,282	9,570	9,742	11,295	10,502
Phosphate fertilizers, natural:					
Ores and concentrates, as reported:					
Apatite ------------------------	310,117	215,288	195,077	191,836	[e] 200,000
Phosphate rock -----------------	255,440	63,506	51,142	86,908	[e] 80,000
Total -------------------------	565,557	278,794	246,219	278,744	[e] 280,000
Marketable concentrates [18] ----------	192,442	146,754	149,355	137,140	NA
Quartz crystal (exports) ---------------	1,587	1,246	1,685	2,119	NA
Salt [19]------------------thousand tons--	1,240	1,193	754	[r] 1,200	1,313
Sulfur, elemental ----------------------	4,561	5,750	NA	5,022	5,918
Talc, soapstone, pyrophyllite -----------	38,300	34,915	48,115	57,648	[e] 58,000
Vermiculite ---------------------------	NA	NA	NA	NA	400
Mineral fuels:					
Coal:					
Mine-run------------thousand tons--	2,508	[20] 2,571	3,246	[20] 3,383	[20] 3,665
Derivatives:					
Coke, high temperature----do----	720	858	912	904	947
Coke, gas-house-----------do----	[e] 285	[e] 285	[e] 280	219	224
Manufactured gas [21] million cubic feet--	NA	NA	NA	13,351	12,828
Natural gas:					
Gross withdrawal [21] million cubic feet--	19,082	18,801	19,844	25,495	29,429
Natural gas liquids 42-gallon barrels--	--------	563,803	831,776	945,426	· NA
Petroleum:					
Crude:					
Production thousand 42-gallon barrels--	33,401	[r] 35,714	[r] 33,310	[r] 34,342	42,446
Refinery runs to stills-----do----	103,888	111,298	113,654	111,356	124,019
Refinery products:					
Gasoline -----------------do----	30,782	32,799	36,536	36,555	42,461
Kerosine -----------------do----	4,364	4,053	4,546	4,123	4,635
Distillate fuel oil----------do----	19,625	22,324	23,910	22,984	28,996
Residual fuel oil ----------do----	38,762	41,094	39,290	35,314	38,886
Lubricants ---------------do----	19	52	3	35	--------
Asphalt ------------------do----	1,428	1,596	1,288	1,817	2,467
Solvents -----------------do----	803	748	795	735	902
Liquefied gases -----------do----	3,421	4,113	5,417	6,593	7,185
Other --------------------do----	697	725	507	484	1,039
Total refinery products--do----	99,901	107,504	112,292	108,640	126,571
Carbon black --------------------------	19,700	24,850	23,904	22,580	29,446

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Includes export data on some commodities for which production data are not available and on commodities for which export data are more representative than incomplete data on production.

[2] In addition to commodities tabulated, Brazil produces antimony, bentonite, china and refractory clays, glass sand, limestone, pyrite, ocher, thorium compounds, uranium oxide, and vermiculite, as

well as common clay, sand, gravel, and stone for construction purposes, but data on quantities are not available.

[3] U.S. imports.

[4] Figure for State of Bahia only.

[5] Production of columbite and tantalite are not separately reported; total production for 1962 and 1963 allocated on the basis of expert ratio for the year.

[6] Exports.

[7] Officially reported production for Minas Gerais and Paraná for 1962–64. Data for 1965 include unofficially reported output for Minas Gerais, Bahia, and Goiás only. Perhaps as much as 60 percent of total gold recovered in Brazil is not reported statistically.

[8] Data from Instituto Brasileiro de Siderurgia.

[9] Data from Instituto Latinoamericano del Fierro y el Acero. Ferroalloy data exclude ferrocolumbium, which is listed under columbium.

[10] Various grades, including mine-run production of largest producer. This company washes out about 20 percent of its mine product before shipping.

[11] Includes production of Comissão Nacional de Energia Nuclear (CNEN) for all years, but CNEN was the only produced in 1964–66.

[12] Data on actual production not available except for 1964 and 1965, when 13 tons were reported for each year.

[13] Average tin content of concentrates is estimated at 60 percent for 1962 and 1963, 65 percent thereafter.

[14] Production of CNEN only.

[15] Includes anthophyllite, chrysotile, and tremolite fiber. Data for 1962 are estimated, as ore rather than fiber is reported by some mines as production.

[16] Data from Sindicato Nacional de Indústria do Cimento (SNIC).

[17] Includes rough and cut (but unset) stones except diamonds and rough agate.

[18] Production of marketable apatite and phosphate rock is not reported separately; however, relative quantities produced are indicated by concentrates sold under government subsidy as follows: Apatite, 1962—100,286 tons; 1963–63, 422 tons; phosphate rock, 1962—90,839 tons; 1963—76,835 tons.

[19] Data provided by Instituto Nacional do Sal.

[20] Data from Plano do Carvão Nacional. Merchantable (cleaned) coal produced was 1,798,000 tons in 1963, 1,782,000 tons in 1964, 1,985,000 tons in 1965, and 2,144,000 tons in 1966.

[21] Converted from cubic meters at the rate of 37.32 cubic feet per cubic meter.

Table 2.—Brazil: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	3,550	2,200	All to Argentina.
Oxide	32	403	Mainly to Argentina.
Metal:			
Unwrought	-----	697	All to Argentina.
Semimanufactures	4	3	Mainly to Chile.
Beryl	1,421	1,113	Mainly to United States.
Columbium and tantalum:			
Pyrochlore concentrate [1]	43	1,259	United States 390; Austria 310; Netherlands 265.
Columbite kilograms	11,178	40,061	Mainly to United States.
Tantalite do	82,000	165,322	United States 135; West Germany 28.
Iron and steel:			
Iron ore thousand tons	9,730	12,731	West Germany 3,378; United States 2,323; Italy 1,396; Argentina 842; Japan 841; Belgium-Luxembourg 756.
Slag, scrap and other residues	379	27,122	Argentina 17,112; Japan 9,908.
Pig iron	148,953	101,296	United States 44,587; Japan 41,680; Israel 9,170; Argentina 5,850.
Ferroalloys:			
Ferrochrome	-----	47	All to Argentina.
Ferrocolumbium	5	211	Mainly to United States.
Ferromanganese	-----	7,260	United States 4,700; Venezuela 2,250.
Ferronickel	1,511	1,810	Mainly to France.
Ferrosilicon	70	1,051	Argentina 571; West Germany 405.
Ingot steel	10,231	10,597	United States 10,103; France 494.
Semimanufactures	89,060	360,082	Argentina 278,461; West Germany 23,026.
Lead ore and concentrate	-----	12,925	All to France.
Manganese ores	832,918	1,067,763	Mainly to United States.
Rare-earth metals:			
Ferrocerium kilograms	2,500	3,000	Mainly to Argentina.
Cerium chloride	889	4,312	Mainly to United States.
Unspecified compounds	10	17	Japan 10; France 7.
Tungsten:			
Scheelite concentrate	329	426	West Germany 111; France 105; Netherlands 100.
Metal, all forms kilograms	179	545	Chile 434; West Germany 102.
Zinc ores	483	522	Netherlands 372; Belgium-Luxembourg 150.
Zirconium silicate (zircon) kilograms	13,500	34,000	All to Argentina.
Other [2]	39	214	Mainly to France.
Nonmetals:			
Abrasives [3]	234	786	Mainly to Argentina.
Agate, rough kilograms	337,654	446,074	United States 139,685; West Germany 118,819; Japan 107,450.
Asbestos:			
Fiber	20	-----	
Construction materials	15	-----	
Asbestos cement products	4	-----	
Barite	58,888	22,087	Trinidad and Tobago 11,676; United States 10,411.
Cement, portland	464	2,739	Mainly to Bolivia.
Clays and clay products:			
China clay	722	1,405	Mainly to Uruguay.
Nonrefractory clay products	50	128	Paraguay 80; Bolivia 48.
Diamonds:			
Industrial carats	4,105	22,670	United States 12,725; Argentina 5,135.
Gem, uncut do	1,240	5,520	United States 4,010; Switzerland 1,000.
Gem, cut but unset do	(4)	2,395	Mainly to United States.
Gem stones: [5]			
Rough or uncut kilograms	422,687	304,295	Japan 126,255; United States 89,236; Belgium-Luxembourg 40,340.
Cut, unset do	10	189	United Kingdom 71; Lebanon 41; United States 28.
Other [6]	279,834	457,809	United States 279,899; West Germany 114,615.
Lithium compounds: Spodumene	-----	6,815	West Germany 5,769; United States 1,016.

See footnotes at end of table.

Table 2.—Brazil: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Magnesite	1,966	12,361	Hungary 5,009; Belgium-Luxembourg 3,600; Spain 2,000.
Mica, muscovite:			
Sheet, block, scrap, or ground	1,741	2,263	Mainly to United States.
Manufactures	10	6	Do.
Quartz crystal:			
Electronic and optical	140	278	United States 151; West Germany 58; United Kingdom 41.
Lasca (fusing grade)	1,545	1,841	West Germany 750; United Kingdom 379; Japan 289.
Refractory bricks and similar products	658	2,052	Mainly to Argentina.
Salt	30	(4)	All to Bolivia.
Stone, dimension:			
Natural or roughly worked:			
Granite	6,910	8,010	Italy 3,239; Japan 2,031; United States 1,061.
Marble	57	66	All to Argentina.
Worked stone, not further specified	375	183	United States 100; Bolivia 43; United Kingdom 12.
Talc, industrial	236	546	Mainly to Colombia.
Other [2]	108	15	Uruguay 10; Argentina 5.
Mineral fuels:			
Petroleum:			
Refinery products:			
Distillate fuel oil____do	122	-----	
Residual fuel oil____do	1	-----	
Other	8	14	Mainly to Uruguay.
Pitch coke	-----	3	All to France.

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[1] Brazil includes pyrochlore under trade classification 2.37.79—Minérios metálicos, n.e. (metalliferrous ores, not specified). Starting in 1963 most, if not all, material exported under this category was pyrochlore concentrate. The quantity shown for 1963 was pyrochlore, but those shown for 1964 and 1965 have not been completely verified and might include small amounts of other commodities.

[2] Includes material not identified by commodity in source and commodities not listed separately in table.

[3] Includes emery, artificial corundum, and diamond and other gem stone dust. Excludes grindstones and industrial diamond.

[4] Less than ½ unit.

[5] Excludes diamonds and rough agate.

[6] Probably represents rejected material suitable for tumbling and mineral suites.

Source: Serviço de Estatística Economica e Financeira, Comércio Exterior.

Table 3.—Brazil: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Oxide	40	1,035	Mainly from France.
Metal:			
Unwrought	18,549	21,844	United States 11,787; Canada 5,879; Norway 1,856; U.S.S.R. 1,338.
Semimanufactures	254	[r] 393	West Germany 143; United States 89; Canada 30; France 13.
Antimony:			
Ores	65	272	Mainly from Peru.
Oxide	15	35	United Kingdom 21; Belgium-Luxembourg 5.
Metal, unwrought and wrought	160	73	Czechoslovakia 35; Belgium-Luxembourg 32.
Arsenic:			
White	302	114	Mainly from France.
Metal	15	21	Mainly from Sweden.
Bismuth metal, all forms kilograms	2,502	12,218	Mexico 6,791; Peru 4,408; West Germany 1,015.
Cadmium, all forms do	28,123	33,472	Mexico 23,890; Peru 6,500; West Germany 2,000.
Chromium:			
Oxides	113	95	West Germany 42; Italy 21; United Kingdom 20.
Metal, all forms	3	4	United States 2; Japan 2.
Cobalt:			
Oxides	31	31	United Kingdom 20; Belgium-Luxembourg 8.
Metal, all forms	78	84	Mainly from Belgium-Luxembourg.
Copper:			
Sulfate	3,389	2,757	United Kingdom 1,163; West Germany 614; Greece 530.
Metal:			
Scrap	29	-----	
Refined, unalloyed	27,810	22,777	Chile 14,613; United States 2,582; Peru 1,730.
Alloys, unwrought	1	13	Mainly from United States.
Semimanufactures, including alloys	341	448	United States 299; West Germany 117.
Gold:			
Bullion troy ounces	1,261	129	All from United Kingdom.
Semimanufactures do	31	-----	
Iron and steel:			
Scrap	24	72	All from United States.
Sponge, powder, granules	595	473	Mainly from United States.
Ferroalloys	804	577	Sweden 255; France 113; United States 76.
Semimanufactures	227,921	210,997	Japan 83,475; West Germany 44,839; Yugoslavia 32,523.
Lead:			
Oxides	73	36	Mainly from Mexico.
Metal, all forms	4,216	2,171	Mexico 1,156; Peru 1,015.
Magnesium metal, all forms	1,502	1,330	United States 871; Norway 407.
Manganese:			
Oxides	1,681	879	Japan 573; Australia 260.
Metal, all forms	15	21	Mainly from Japan.
Mercury 76-pound flasks	3,003	17,305	Mainly from Mexico.
Molybdenum metal, all forms kilograms	7,466	7,934	Canada 5,136; Netherlands 1,411; United States 1,095.
Nickel:			
Sulfate	219	264	Mainly from West Germany.
Metal:			
Scrap	-----	1	All from United States.
Refined	357	277	Mainly from United States.
Semimanufactures	325	285	United States 168; France 55; West Germany 39.
Platinum-group metals:			
Platinum, unwrought troy ounces	13,430	1,073	All from Hungary.
Platinum, semimanufactures do	193	75	All from United States.
Platinum, manufactures [1] do	257	96	All from Netherlands.

See footnotes at end of table.

Table 3.—Brazil: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Platinum-group metals—Continued			
Other, unwrought ------do----	27,103	7	All from United Kingdom.
Other, semimanufactures do----	225	18	All from United States.
Radioactive and associated materials:			
Radium ---------milligrams--	459	25	All from Canada.
Other radioactive chemical elements and their isotopes and compounds ----------value--	$29,179	$35,296	Canada $23,209; United States $11,326.
Staple isotopes and their compounds --------------do----	$121	-----	
Other compounds of thorium and uranium and of rare earth metals-----kilograms--	234	10,842	Republic of South Africa 6,662; United States 3,164.
Selenium ------------------do----	2,150	1,687	Belgium-Luxembourg 800; Sweden; 350; United States 335.
Silicon metal --------------------	174	272	France 147; Norway 81; Sweden 30.
Silver:			
Bullion----------troy ounces--	1,512,371	734,001	Peru 396,837; Mexico 311,219; United Kingdom 14,211.
Semimanufactures -----do----	49,641	31,379	United States 4,581; Sweden 9,009; West Germany 8,520.
Sodium metal----------kilograms--	10,062	5,303	Mainly from West Germany.
Tantalum, semimanufactures do----	9	11	All from United States.
Tellurium -----------------do----	-----	([2])	Do.
Tin:			
Cassiterite concentrates long tons--	922	1,184	All from Thailand.
Oxides ----------------do----	58	33	United Kingdom 17; West Germany 16.
Metal, all forms--------do----	5	2	United States 1; Japan 1.
Titanium: Oxides, manufactured--	6,568	6,559	Belgium-Luxembourg 1,958; United Kingdom 1,778; Japan 952.
Tungsten:			
Wolframite concentrates -----	10	-----	
Metal, all forms---kilograms--	2,899	2,539	United States 1,890; West Germany 223; Netherlands 204.
Zinc:			
Oxides ----------------------	72	305	Poland 187; Yugoslavia 54; West Germany 25.
Lithopone -------------------	6,587	6,078	West Germany 1,165; Netherlands 1,059; Yugoslavia 941; Mexico 765; Austria 700; Belgium-Luxembourg 645.
Metal:			
Refined -----------------	30,707	31,574	Peru 17,065; Mexico 4,807; Japan 2,790.
Semimanufactures -------	349	443	Belgium-Luxembourg 200; United States 190.
Metallic oxides, not specified -----	105	177	United States 57; United Kingdom 44; West Germany 32.
Other [3] ------------------------	103	19	Mexico 14; United States 3.
Nonmetals:			
Abrasives:			
Natural [4] --------------------	55	59	Italy 46; United States 12.
Corundum, artificial ---------	312	271	West Germany 188; Italy 45; United Kingdom 25.
Silicon carbide ---------------	151	175	Norway 81; United States 46; West Germany 25.
Carbides, not specified -------	9	17	Mainly from Sweden.
Asbestos:			
Fiber -----------------------	13,334	15,151	Canada 12,224; Republic of South Africa 1,533.
Construction materials -------	240	108	United Kingdom 44; West Germany 36; Italy 12.
Barium compounds: [5]			
Barite ----------------------	24	30	All from United States.
Sulfate ---------------------	398	539	West Germany 273; United States 186; Czechoslovakia 49.
Oxide -----------kilograms--	10,928	7,301	Mainly from United States.

See footnotes at end of table.

Table 3.—Brazil: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Boron:			
Borax, crude	-----	50	All from United States.
Sodium borates, purified	8,022	7,209	Argentina 5,586; United States 1,592.
Boric acid	1,020	879	Mainly from United States.
Bromine kilograms	201	185	Mainly from West Germany.
Caustic potash	745	586	United States 243; East Germany 238; France 74.
Caustic soda	116,602	96,309	United States 27,425; West Germany 15,538; Rumania 10,093.
Cement:			
Portland, common	26,157	42,683	Uruguay 37,158; Colombia 5,525.
Magnesian	4	-----	
Refractory	2,329	306	France 161; United States 116.
Nonspecified cements	242	539	West Germany 385; France 58; Japan 50.
Chalk, natural	2,353	1,409	Denmark 753; France 297; Belgium-Luxembourg 104.
Clays:			
Bentonite	8,198	4,548	United States 2,696; Argentina 1,837.
China clay	111	96	Mainly from United States.
Refractory clay	50	3	United States 2; United Kingdom 1.
Nonspecified clays	595	448	United States 335; Argentina 100.
Cryolite:			
Natural	977	1,003	Mainly from Denmark.
Synthetic	1,214	703	Mainly from Canada.
Diatomite and infusorial earth	1,206	1,694	Mainly from United States.
Fertilizer materials:			
Nitrogenous:			
Chilean nitrates	32,501	52,757	All from Chile.
Other	172,350	223,000	United States 107,892; West Germany 58,196; Netherlands 27,927; Belgium-Luxembourg 13,015.
Phosphatic:			
Phosphate rock, natural	181,763	154,718	United States 138,212; Togo 16,506.
Superphosphate	5,507	5,776	United States 4,179; Denmark 1,360.
Triple superphosphate	49,266	49,731	Mainly from United States.
Thomas slag	5,881	5,635	West Germany 3,941; Belgium-Luxembourg 1,694.
Other	6,183	2,726	Japan 2,126; Belgium-Luxembourg 600.
Potassic:			
Potassium chloride	110,504	155,356	United States 70,053; France 23,158; Israel 22,935.
Other compounds	4,698	7,969	United States 4,099; Belgium-Luxembourg 2,650; West Germany 1,220.
Mixed and nonspecified fertilizers	80	-----	
Graphite, natural	135	180	United States 150; West Germany 25.
Gypsum	930	855	Mainly from Bolivia.
Iodine kilograms	11,321	16,375	Argentina 6,043; Chile 4,290; Czechoslovakia 3,604.
Magnesium oxide	104	80	United Kingdom 24; France 21; West Germany 17.
Mica:			
Sheet, block, scrap, or ground kilograms	227	318	All from United States.
Manufactures do	6,647	21,892	Mainly from United States.
Mineral pigments:			
Iron oxides, natural or synthetic	1,171	760	West Germany 472; Spain 246.
Earth colors kilograms	6,809	10,807	France 9,539; West Germany 1,010.
Phosphorus, elemental	118	148	Mainly from West Germany.
Refractory bricks and similar products	3,390	3,629	United States, 1,515; Netherlands 633; France 495.
Salt	52,213	249,509	West Germany 78,631; United States 35,600; Tunisia 30,245.
Silex or flintstone, crude	420	83	Mainly from Denmark.
Soda ash	6,023	4,606	United Kingdom 2,500; Rumania 2,083.

See footnotes at end of table.

Table 3.—Brazil: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Sodium sulfate	5,295	10,476	East Germany 5,076; Mexico 3,281; Chile 1,284.
Stone, dimension: Marble, worked or not	11	92	All from Italy.
Sulfur:			
Crude	140,801	192,337	Mainly from United States.
Refined	275	571	Do.
Other [3]	12	7	Do.
Mineral fuels:			
Carbon black	2,872	2,815	United States 1,670; Argentina 528; West Germany 355.
Coal:			
Anthracite	3,563	1,633	United States 1,380; West Germany 250.
Bituminous	1,348,429	1,046,176	All from United States.
Coal coke	152,576	124,808	Mainly from West Germany.
Mineral waxes	446	281	United States 204; Denmark 31.
Petroleum:			
Crude ......thousand tons	10,803	10,247	Venezuela 4,024; U.S.S.R. 2,234; Iraq 1,879.
Refinery products:			
Gasoline ......do	293	163	Mainly from Netherlands Antilles.
Kerosine ......do	3	2	All from United States.
Jet fuel ......do	246	276	Venezuela 214; Netherlands Antilles 62.
Residual fuel oil ......do	-----	19	All from Venezuela.
Lubricants ......do	272	217	United States 130; Netherlands Antilles 50.
Liquefied petroleum gas ......do	233	165	Venezuela 134; Italy 13.
Paraffin and vaseline ......do	16	14	East Germany 7; United States 5.
Petroleum coke	8,124	11,150	All from United States.
Asphalt and asphalt mixtures	556	377	Argentina 189; United States 158.
Other refinery products	15,895	1	Mainly from United States.
Mineral tar and crude chemicals from coal, petroleum, and natural gas	21,625	51,061	United States 19,670; Venezuela 12,918; Netherlands Antilles 10,190.

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[1] Excludes jewelry and other ornamental items.

[2] Less than ½ unit.

[3] Includes some material not identified by commodity in source and commodities not listed separately in table.

[4] Includes emery, pumice, and diamond and other gem stone dust. Excludes millstones and grindstones.

[5] Excludes lithopone, which is listed under zinc.

Source: Serviço de Estatística Econômica e Financeira, Comércio Exterior.

British Honduras

Table 1.—British Honduras: Estimated production of mineral commodities

Commodity	Quantity				
	Cubic yards			Metric tons	
	1962	1963	1964	1965	1966
Nonmetals:					
Limestone	37,945	25,481	23,332	57,376	58,000
Sand and gravel[1]	NA	NA	NA	84,400	57,230

NA Not available.

[1] Reportedly comprises 50 percent sand and 50 percent gravel.

Source: U.S. Embassy, Belize City.

Table 2.—British Honduras: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel:			
Scrap	8,698	40	Mainly to Mexico.
Semimanufactures	53	52	All to Mexico.
Nonferrous metals: semimanufactures	(1)	6	All to United Kingdom.
Nonmetals:			
Cement	760	605	Mainly to Mexico.
Mineral fuels:			
Petroleum refinery products thousand 42-gallon barrels	12	15	Mainly bunkers.

[1] Less than ½ unit.

Sources: British Honduras. Trade Report for the year 1964, and 1965. Belize City.

Bulgaria

Table 1.—Bulgaria: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity[1]	1962	1963	1964	1965	1966[p]
Metals:					
Copper:					
Ore, gross weight thousand tons	1,786	2,109	2,202	4,458	[e] 4,500
Content of ore do.	19	[r] 21	20	30	[e] 31
Concentrate (20 percent)	93,174	91,887	91,500	120,734	[e] 125,000
Blister	19,439	20,522	21,102	25,248	[e] 26,000
Electrolytic	18,287	19,797	20,600	23,885	[e] 25,000
Rolled products	11,245	12,115	13,722	[e] 14,000	NA
Iron and steel:					
Iron ore, gross weight thousand tons	635	655	716	1,801	2,608
Iron content of ore do.	258	254	257	585	[e] 760
Pig iron and ferroalloys do.	223	265	457	695	828
Steel ingots do.	423	461	475	588	[e] 700
Rolled products do.	330	353	363	431	[e] 440
Lead:					
Lead-zinc ore, gross weight do.	4,239	4,189	4,361	4,452	[e] 4,500
Lead content of ore	94,400	88,900	91,300	100,000	[e] 100,000
Lead concentrate (70 percent)	134,857	127,053	130,400	130,098	[e] 130,000
Refined	43,700	51,332	87,499	93,421	[e] 90,900
Manganese ore	35,000	38,494	52,000	42,000	[e] 42,000
Zinc:					
Zinc content of ore[2]	[r] 62,709	[r] 57,907	64,206	66,257	[e] 66,000
Zinc concentrate (52 percent)	120,594	111,359	123,500	127,417	[e] 130,000
Refined	51,725	56,064	[r] 58,573	65,764	[e] 60,000
Nonmetals:					
Asbestos[e]	[r] 1,200	[r] 1,200	[r] 1,300	1,300	1,300
Cement:					
Portland thousand tons	1,825	2,120	2,586	2,634	NA
Pozzolan do.	68	85	47	47	NA
Total do.	1,893	2,205	2,633	2,681	2,856
Fertilizers:					
Nitrogenous, nitrogen content	94,015	100,947	205,394	245,834	[e] 250,000
Phosphatic, phosphorus pentoxide content	69,640	70,571	90,290	93,672	[e] 94,000
Gypsum:					
Crude thousand tons	117	100	129	174	[e] 180
Calcined do.	13	12	16	13	[e] 13
Kaolin do.	61	77	83	95	[e] 100
Lime, crude do.	695	753	834	851	NA
Pyrite concentrate (42 percent)	142,303	129,933	146,849	152,916	[e] 160,000
Refractories, all types	81,200	86,300	100,100	123,500	[e] 125,000
Salt	149	105	82	125	[e] 125
Sulfur	5,590	6,392	6,828	10,121	[e] 11,000
Mineral fuels:					
Coal:					
Anthracite thousand tons	197	217	221	190	[e] 170
Bituminous do.	439	441	[r] 378	362	[e] 320
Lignite and brown do.	[r] 20,205	20,275	23,751	24,490	24,624
Coke do.	8	128	471	733	[e] 750
Fuel briquets[e] do.	1,000	1,250	1,500	1,500	NA
Petroleum:					
Crude do.	199	173	160	229	[e] 400
Refinery products:					
Gasoline do.	NA	68	307	371	NA
Kerosine	NA	8,369	41,853	73	NA
Diesel fuel thousand tons	25	117	494	NA	NA
Fuel oil do.	42	265	1,000	1,097	NA
Lubricants do.	23	34	45	46	NA

[e] Estimate. [p] Preliminary. NA Not available.

[1] In addition to reported commodities Bulgaria is known to produce gold, silver, barite, clays, and salt.

[2] For gross weight of ore, see lead entry.

Sources: Statisticheski Godishnik na Narodna Republika Bulgaria—1965 (Statistical Yearbook of the Peoples Republic of Bulgaria for 1965). Sofia, 1965, 559 pp. Rabotnichesko Delo (Sofia). Jan 29, 1966.

Table 2.—Bulgaria: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal country of destination in 1965
Metals:			
Iron and steel:			
Iron ore	10,822	10,609	All to Rumania.
Pig iron	r 130,919	300,997	Japan 158,445; Austria 78,629; Yugoslavia 25,413; Italy 16,350.
Steel	r 11,617	10,105	Turkey 5,615; Cambodia 1,305; Syria 1,061.
Semimanufactured products	r 79,068	41,959	Yugoslavia 13,984; Rumania 9,186.
Lead, metals and alloys, unwrought	52,786	53,466	U.S.S.R. 13,131; Netherlands 7,246; Poland 7,148; West Germany 5,776; Czechoslovakia 4,236.
Zinc, metals and alloys, unwrought	44,590	51,499	United Kingdom 11,760; Czechoslovakia 10,229; West Germany 4,683.
Nonmetals:			
Cement	514,741	715,277	Spain 467,298; Yugoslavia 104,648.
Nitric fertilizers, bulk	100,181	57,970	Hungary 14,675; Syria 12,978; Cuba 12,686.
Unspecified nonmetals	73,861	84,931	U.S.S.R. 40,834; Hungary 12,677; Czechoslovakia 6,068.
Mineral fuels:			
Petroleum, crude	40,822	3,933	All to Greece.

r Revised.

Source: Statisticheski Godishnik na Narodna Republika Bulgaria, 1966 (Statistical Yearbook of the Peoples Republic of Bulgaria for 1966) Sofia, 1966, 574 pp.

Table 3.—Bulgaria: Imports of selected mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Ingots	4,500	3,400	All from the U.S.S.R.
Semimanufactures	1,589	2,154	Do.
Antimony, metal	1,179	[2] 661	Do.
Copper and alloys, semimanufactures	1,651	[2] 944	Do.
Iron and steel:			
Iron ore thousand tons	346	[2] 842	Do.
Pig iron do	132	165	U.S.S.R. 157; West Germany 7.
Ferroalloys do	6	[2] 8	All from the U.S.S.R.
Semimanufactures do	463	418	U.S.S.R.[2] 364.
Nonmetals:			
Asbestos[2]	15,800	12,700	All from the U.S.S.R.
Apatite, concentrates[2]	r 200,100	207,800	Do.
Fertilizers, phosphatic, manufactured	90,483	[2] 28,700	Do.
Graphite[2]	1,200	1,100	Do.
Mineral fuels:			
Coal, bituminous	1,994	2,504	Do.
Coke, metallurgical	352	264	Czechoslovakia 133; U.S.S.R. 98; West Germany 33.
Petroleum:			
Crude[2]	1,799	2,146	All from the U.S.S.R.
Refinery products:			
Gasoline[2]	215	141	Do.
Kerosene[2]	10	11	Do.
Diesel fuel	230	288	Do.
Heating oil[2]	808	794	Do.
Lubricants[2]	41	46	Do.
Others[2]	22	184	Do.
Total[2]	1,326	1,304	Do.

r Revised.

[1] Because Bulgaria publishes only limited data of foreign trade in minerals, this table has been compiled from Bulgarian and Soviet sources, therefore information is partial for many commodities. Information except as noted is from the Statisticheski Godishnik na Narodna Republika Bulgaria—1966 (Statistical Yearbook of the Peoples Republic of Bulgaria for 1966) Sofia 1966 574 pp.

[2] Vneshnyaya Torgovlya S.S.S.R. 2a 1965 god (Foreign Trade of the U.S.S.R. for 1965) Moscow, 1966, 324 pp.

Burma

Table 1.—Burma: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965 [1]	1966 [e]
Metals:					
Antimony:					
Ore: Antimony content	125	150	150	150	200
Antimonial lead (18 to 20 percent Sb) [2]	459	578	[r] 530	560	700
Copper:					
Ore: Copper content	150	173	125	138	150
Matte, gross weight [2]	370	430	348	320	380
Gold, refined [e] troy ounces	200	200	200	200	200
Iron and steel:					
Iron ore	9,162	4,250	NA	5,000	10,000
Steel ingots and castings [e]	13,000	15,000	15,000	18,000	25,000
Rolled steel [e]	10,000	12,000	12,000	[r] 15,000	22,000
Lead:					
Concentrate:					
Gross weight [2]	33,449	32,936	31,002	[r] 32,261	26,000
Lead content	20,300	20,016	18,800	20,000	18,500
Refined metal [2]	17,385	17,738	18,053	18,000	18,000
Manganese ore	193	[e] 200	NA	600	100
Nickel speiss:					
Gross weight	536	462	378	245	350
Nickel content	165	102	[r] 71	[r] [e] 50	70
Silver refined [2] thousand troy ounces	1,940	2,075	[3] 1,867	[3] 1,638	[3] 1,096
Tin concentrate:					
Gross weight long tons	909	795	830	[r] 664	400
Tin content of tin concentrate and tin-tungsten concentrates do	[r] 1,042	[r] 1,003	[r] 916	[r] 677	455
Tin-tungsten concentrate, gross weight do	1,161	1,279	957	[r] 606	500
Tungsten:					
Concentrate, gross weight	215	89	86	27	50
Tungsten content of tungsten concentrate and tin-tungsten concentrate, 60 percent WO_3 base	800	750	[r] 580	[r] 337	237
Zinc concentrate:					
Gross weight [2]	15,119	15,224	14,666	14,259	11,000
Zinc content	8,197	8,042	7,655	7,783	6,332
Nonmetals:					
Barite	4,048	1,930	[e] 2,000	[e,r] 3,000	5,000
Cement thousand tons	53	124	131	120	120
Gypsum	2,084	8,350	9,150	450	2,000
Lime [e]	65,000	70,000	75,000	80,000	85,000
Limestone	65,289	97,300	107,000	[r] 116,500	120,000
Marl	26,293	64,400	62,100	[r] 99,800	100,000
Salt thousand tons	156	161	127	[r] 132	130
Mineral fuels:					
Coal, bituminous do	3	3	10	10	10
Gas, natural (gross production) million cubic feet	672	597	NA	NA	NA
Petroleum:					
Crude thousand 42-gallon barrels	4,366	4,761	4,160	[r] 4,065	3,509
Refinery products [5]					
Gasoline do	1,292	1,238	1,216	1,300	1,350
Kerosine do	702	854	923	1,050	1,200
Other do	1,229	1,280	1,356	1,450	1,500
Total do	3,223	3,372	3,495	3,800	4,050

[e] Estimate. [r] Revised. NA Not available.

[1] All figures for 1965 estimated except those for lead concentrate, refined silver, tin concentrate, tin-tungsten concentrate, tungsten concentrate, and zinc concnetrate.

[2] Output of Burma Corp. (1951), Ltd., as reported in 1962–63; figures tantamount to national production. Other companies sporadically produce small quantities of lead, zinc, and silver.

[3] Crude silver.

[4] Burma also produces a variety of semiprecious and precious stones, including amber, jade, ruby, sapphire, and spinel.

[5] For 1962 and 1963, residual fuel is apparently not included and Other is comprised mainly of distillate fuel.

Burundi

Table 1.—Burundi: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity[1]	1962	1963	1964	1965	1966
Metals:					
Columbium-tantalum concentrate	2	2	NA	NA	NA
Rare earth metal concentrate (bastnaesite)	---	---	---	75	NA
Tin:					
Cassiterite concentrate ... long tons	35	25	22	16	NA
Content of concentrate ... do	26	16	NA	10	NA
Nonmetals: Limestone	NA	360	120	150	NA

NA Not available.

[1] In addition, construction materials such as clay, sand, and gravel are produced, but quantitative data are not available.

Cambodia

Table 1.—Cambodia: Production of mineral commodities

Commodity	1962	1963	1964 e	1965 e	1966
Metals:					
Gold ... troy ounces	965	6,687	6,000	4,500	e 4,000
Nonmetals:					
Cement ... thousands metric tons	----	----	10	50	59
Salt ... do	e 40	60	60	NA	NA
Phosphate rock ... metric tons	150	150	150	150	----

e Estimate. NA Not available.

[1] In addition to commodities listed gem stones are produced in undetermined quantities.

Cameroon

Table 1.—Cameroon: Production of mineral commodities

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Aluminum____metric tons__	52,250	52,913	51,507	[r] 50,487	48,159
Gold____troy ounces__	579	1,865	739	[r] 1,286	900
Tin, content of concentrate____long tons__	23	25	40	[r] 40	[e] 25

[e] Estimate. [r] Revised.

[1] In addition to commodities listed, construction materials such as clay, sand and gravel are produced, but quantitative data are not available.

Table 2.—Cameroon: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]	Principal destinations, 1965
Metals: [2]			
Aluminum, mainly ingot____	49,195	46,547	France 28,698; Guinea 3,344; Belgium-Luxembourg 2,000.
Copper ____	1	-----	
Iron and steel:			
Scrap ____	2,813	2	Italy 1; European Economic Community 1.
Semimanufactures ____	95	79	Gabon 43; Chad 20; Central African Republic 14.
Lead ____	43	60	Belgium-Luxembourg 31; Italy 23; Denmark 5.
Tin ore and concentrate long tons__	76	NA	
Nonferrous ore and concentrates, not elsewhere specified ____	70	148	Spain 78; Belgium-Luxembourg 41; Netherlands 15.
Nonferrous metals, not elsewhere specified ____	2	-----	
Nonmetals:			
Cement, lime and other building materials ____	38	-----	
Clay construction materials ____	7	3	All to Gabon.
Fertilizers, manufactured ____	23	-----	
Nonmetallic minerals, crude, not elsewhere specified ____	636	40	All to Chad.
Mineral fuels:			
Petroleum refinery products____	222	868	Netherlands Antilles 736; Congo (Brazzaville) 34; France 30.

NA Not available.

[1] Source: Statistical Office of the European Communities, No. 2, 1967. pp. 73–94.

[2] Includes unwrought and semimanufactures unless otherwise specified.

Table 3.—Cameroon: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]	Principal sources, 1965
Metals:[2]			
Aluminum:			
Alumina	94,056	86,143	Guinea 84,979; France 1,148.
Metal	2,198	2,736	Belgium-Luxembourg 2,582; France 153.
Copper	70	70	France 55; Switzerland 12.
Iron and steel:			
Pig iron and ferroalloys	225	273	All from France.
Steel ingots and equivalent forms	10	329	Do.
Semimanufactures:			
Bars, rods, and sections	11,536	11,159	France 8,207; Belgium-Luxembourg 1,046; West Germany 1,081.
Plate, sheet, and strip	9,287	9,811	France 9,152; Belgium-Luxembourg 288; West Germany 207.
Rails and accessories	9,392	9,940	France 9,891; Italy 50.
Wire	1,391	619	France 570; Italy 23; West Germany 13; Belgium-Luxembourg 13.
Tubes, pipes, and fittings	2,649	3,329	France 2,915; United States 196; Italy 132.
Castings and forgings	702	-----	
Total semimanufactures	34,957	34,858	
Lead	24	22	All from France.
Tin ... long tons	18	3	Do.
Zinc	672	11	France 9; West Germany 1.
Nonferrous metals, not elsewhere specified	11	-----	
Nonmetals:			
Abrasive, natural	108	149	All from France.
Cement, lime, and other building materials	100,514	117,431	Belgium-Luxembourg 55,926; France 40,303; West Germany 7,988.
Clay construction materials	1,524	1,373	France 1,213; West Germany 98; Italy 28.
Fertilizer materials:			
Natural	620	-----	
Manufactured	41,593	32,221	France 18,781; West Germany 10,945; Italy 2,000.
Stone, sand, and gravel	257	187	France 132; Italy 55.
Nonmetallic minerals, crude, not elsewhere specified	20,728	18,154	West Germany 10,168; Senegal 2,865; Spain 2,572.
Nonmetallic mineral manufactures, not elsewhere specified	1,424	129	France 108; West Germany 16; United Kingdom 2.
Mineral fuels:			
Coal, coke, and briquets	383	448	All from France.
Gas, natural or manufactured	693	1,056	France 1,009; Algeria 25; Italy 22.
Petroleum:			
Crude or partly refined	44	-----	
Refinery products	185,624	158,815	Venezuela 42,991; Netherlands Antilles 42,762; West Germany 31,878.
Tar, pitch, and other crude chemicals from coal, oil and gas distillation	328	([3])	

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[1] Source: Statistical Office of the European Communities, No. 2, 1967. pp. 73–94.
[2] Includes unwrought and semimanufactures, unless otherwise specified.
[3] Included with petroleum refinery products.

Canada

Table 1.—Canada: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum	626,224	652,616	[r] 764,426	762,345	818,276
Antimony[1]	876	727	722	591	613
Arsenic, white	73	85	147	183	204
Bismuth[2]	193	163	181	194	342
Cadmium[3]	1,182	1,123	1,258	796	910
Calcium kilograms	56,024	44,757	62,758	72,318	121,563
Cobalt[4]	1,579	1,372	[r] 1,444	1,655	1,555
Columbium concentrate (shipments)	[r] 834	[r] 1,334	[r] 1,883	2,060	2,526
Copper:					
Mine (recoverable)	414,931	[r] 410,552	441,706	460,736	462,469
Smelter (refined)	[r] 347,325	[r] 344,796	370,077	393,837	393,644
Gold thousand troy ounces	4,178	[r] 4,003	3,799	3,587	3,274
Iron and steel:					
Iron ore thousand tons	24,820	27,346	34,768	36,250	36,738
Pig iron and ferroalloys do	4,912	5,496	6,084	6,574	6,714
Steel ingots and castings do	6,508	7,430	8,283	9,098	9,074
Rolled steel do	7,220	8,177	9,123	10,005	9,900
Lead:					
Mine, ore and concentrate, content	191,706	180,518	187,205	274,832	294,371
Refined, primary	138,088	140,614	137,322	169,175	167,711
Magnesium	7,998	[r] 8,080	8,485	9,170	6,156
Mercury 76-pound flasks	---	---	73	20	---
Molybdenum	371	378	556	4,335	9,749
Nickel[5]	210,685	196,885	207,287	242,496	220,252
Platinum and platinum-group metals troy ounces	470,787	357,651	376,238	463,127	385,741
Selenium kilograms	220,928	212,630	[r] 211,258	232,273	236,394
Silver thousand troy ounces	30,669	29,840	29,903	31,917	33,342
Tellurium kilograms	26,637	34,855	[r] 35,281	31,658	35,788
Tin, mine long tons	291	414	157	168	327
Titanium slag (70-72 percent TiO_2)	273,470	344,115	494,164	495,248	476,067
Tungsten, concentrate (60 percent WO_3)	3	---	NA	2,825	3,003
Uranium (U_3O_8)	7,648	7,576	6,609	4,031	3,467
Zinc:					
Ore and concentrate, content	455,347	451,032	662,186	826,377	945,066
Refined, primary	254,154	257,658	306,380	325,313	347,098
Nonmetals:					
Asbestos thousand tons	1,108	[r] 1,157	[r] 1,289	1,259	1,342
Barite	205,567	157,398	153,449	184,180	194,004
Cement[6] thousand tons	6,240	6,364	7,176	7,578	8,083
Clays and products[7] value, thousand US$	34,981	35,293	37,768	39,757	41,448
Diatomite	191	724	1,037	74	296
Feldspar (shipments)	9,066	7,809	8,300	9,892	14,424
Fluorspar [e]	68,000	77,000	87,000	102,000	88,000
Gypsum and anhydrite thousand tons	4,897	5,518	5,770	5,720	5,427
Lime do	1,292	1,316	1,398	1,470	1,403
Lithium concentrate (Li_2O)[8]	227	292	479	460	111
Magnesite and brucite	[e] 125,000	[e] 137,000	[e] 139,000	70,555	[e] 68,500
Mica (shipments)	[r] 547	[r] 536	[r] 544	248	154
Nepheline syenite	230,803	230,424	263,356	308,425	332,410
Potash (K_2O equivalent)	[e] 135,000	568,675	[r] 778,679	1,352,878	1,855,183
Pyrite and pyrrhotite	469,291	432,215	[r] 319,191	320,060	294,133
Salt thousand tons	3,325	3,358	3,613	4,159	3,926
Sand and gravel do	[r] 152,318	[r] 159,404	[r] 161,900	186,208	189,721
Sodium sulfate	223,776	233,067	302,331	313,403	273,914
Stone:					
Crushed thousand tons	[r] 41,386	[r] 51,984	[r] 57,082	59,965	NA

See footnotes at end of table.

Table 1.—Canada: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals—Continued					
Stone—Continued					
Building and ornamental [9] do	[r] 142	177	[r] 245	NA	NA
Sulfur [10] do	[r] 1,129	[r] 1,668	[r] 2,182	2,354	[e] 2,371
Talc, soapstone, and pyrophyllite (shipments)	41,876	49,215	52,736	47,933	60,915
Mineral fuels:					
Coal:					
Bituminous thousand tons	7,283	7,894	8,460	8,641	8,449
Lignite do	2,047	1,700	1,809	1,872	1,885
Coke: High temperature do	3,648	3,888	3,940	3,963	4,015
Fuel briquets do	50	66	54	63	NA
Natural gas million cubic feet	946,703	1,111,478	1,317,718	1,324,149	1,430,066
Peat moss thousand tons	216	221	232	261	245
Petroleum:					
Crude thousand 42-gallon barrels	244,139	258,435	274,626	292,308	321,417
Refinery products:					
Gasoline, total do	111,239	119,608	124,988	128,652	136,369
Kerosine and jet fuels do	24,433	26,288	25,414	25,379	26,198
Distillate fuel oil do	82,215	93,900	94,139	99,653	107,770
Residual fuel oil do	41,071	45,312	47,635	47,730	51,821
Lubricants do	1,699	1,838	1,816	1,832	1,735
Other products do	29,942	23,606	27,123	28,342	31,820
Refinery fuel and loss do	19,532	20,962	21,266	23,468	25,626
Total do	310,131	331,514	342,381	355,056	381,339

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Antimony content of antimonial lead alloys, flue dust, and dore slag.

[2] Refined metal and bullion plus recoverable bismuth content of concentrates exported.

[3] Refined metal from domestic ores plus cadmium content of some exported ores and concentrates.

[4] All forms; excludes the cobalt in nickel sinter shipped to the United Kingdom by International Nickel Co., but includes cobalt in Falconbridge nickel-copper matte to Norway.

[5] Refined nickel and nickel in produced oxide and recoverable nickel in matte exported.

[6] Cement shipped or used by producers.

[7] Value including bentonite and products from common, stoneware, fire clay, and other types of clay.

[8] Spodumene concentrates.

[9] Building, ornamental, paving, and similar uses of granite, limestone, marble, slate, and sandstone.

[10] Includes sulfur from natural gas and from pyrite, pyrrhotite, and smelting of sulfide ores.

Table 2.—Canada: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Alumina, Al content	4,573	7,048	United States 6,598; Columbia 150.
Scrap	29,762	35,304	United States 18,684; Italy 10,882.
Pigs, ingots, wire bars, etc.	569,710	641,850	United States 315,694; United Kingdom 166,514.
Bars, rods, sheets, castings	16,379	23,969	India 9,455; United States 5,689.
Foil	344	395	United Kingdom 176; United States 123.
Fabricated materials, n.e.s.[1]	9,439	10,543	Nigeria 2,768; Mexico 1,239; Pakistan 1,221.
Bismuth, refined and semirefined	136	NA	NA.
Cadmium	736	619	United Kingdom 381; United States 201.
Calcium kilograms	95,618	67,268	United States 34,337; Belgium-Luxembourg 19,958.
Cobalt:			
Metal	269	133	United States 120; France 7.
Oxides and salts, gross weight	751	641	United Kingdom 618; United States 23.
Columbium concentrate[2] kilograms	880,039	843,824	United States imports only.
Copper:			
Ore and matte, metal content	94,847	78,926	Japan 47,677; Norway 14,084.
Scrap, slag, sludge	12,233	18,650	United States 4,062; Yugoslavia 3,096; West Germany 2,669.
Refinery shapes	203,459	181,285	United Kingdom 96,252; United States 64,463.
Semimanufactures:			
Bars, rods, shapes, etc.	31,722	31,971	Norway 8,401; United States 8,027.
Pipe and tubing	8,104	7,594	United States 2,676; New Zealand 1,857.
Wire and cable	769	2,416	Pakistan 778; United States 773.
Iron and steel:			
Iron ore thousand tons	30,963	31,293	United States 24,136; United Kingdom 2,961.
Pig iron do	531	525	United States 443; West Germany 53.
Ferroalloys:			
Ferrochrome	156	186	United Kingdom 107; United States 72.
Ferromanganese	3,047	3,463	All to United States.
Ferrosilicon	41,718	42,118	United Kingdom 30,747; United States 9,932.
Other (type not specified)	218	1,681	West Germany 1,541; United States 59.
Steel:			
Ingots and other primary forms thousand tons	401	276	United States 227; Spain 48.
Hot and cold rolled products do	974	NA	NA.
Lead:			
Ore and concentrate, metal content	72,900	97,037	United States 41,788; Belgium-Luxembourg 35,729.
Pigs, blocks, and shot	86,970	117,087	United Kingdom 54,863; Netherlands 10,172.
Alloys, scrap, and metal, n.e.s.[1]	6,484	9,565	United States 4,903; France 1,043.
Magnesium [e]	5,781	6,520	United Kingdom 2,683; West Germany 2,160.
Nickel:			
Ore, matte, and speiss, metal content	67,827	74,687	United Kingdom 42,699; Norway 29,765.
Scrap	981	949	United States 781; West Germany 51.
Oxide, metal content	32,478	37,155	United States 24,557; United Kingdom 6,702.
Ingots and other refined forms	116,420	122,650	United States 99,916; United Kingdom 13,730.
Fabricated products n.e.s.[1]	2,321	2,885	United States 2,083; Republic of South Africa 317.

See footnotes at end of table.

Table 2.—Canada: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Platinum-group metals:			
Concentrate, residues and matte content__troy ounces__	404,891	492,501	United Kingdom 471,238; Norway 16,823.
Scrap ________do____	1,995,607	26,815	United States 25,877; United Kingdom 938.
Metals ________do____	3,901	53,450	United States 53,039; United Kingdom 156.
Selenium metals and salts, selenium content________kilograms__	182,028	204,663	United Kingdom 99,156; United States 89,132.
Silver:			
Ore and concentrate, metal content thousand troy ounces__	9,478	12,246	United States 6,835; Belgium-Luxembourg 2,951.
Refined metal__________do____	10,583	11,268	United States 11,240; Venezuela 17.
Thorium, metal [2]_______kilograms__	1,315	2,268	United States imports only.
Tin, ore and concentrate long tons__	329	216	Mexico 104; United Kingdom 64.
Titanium slag, 70 percent TiO_2 [2]__	[r] 83,004	54,217	United States imports only.
Uranium U_3O_8 ________	[2] 1,667	653	United States imports only.
Zinc:			
Ore and concentrate, metal content ________	365,691	442,207	United States 210,103; Belgium-Luxembourg 142,180.
Blocks, pigs, slabs ________	215,981	239,680	United Kingdom 99,398; United States 83,104.
Alloys, scrap, dross, etc.______	7,066	8,295	United States 5,486; Belgium-Luxembourg 1,710.
Fabricated materials, n.e.s.[1]___	1,694	1,533	United Kingdom 855; United States 595.
Nonmetals:			
Abrasives:			
Fused alumina, crude and grains ________	141,237	160,833	United States 142,470; United Kingdom 18,212.
Silicon carbide, crude and grains ________	73,536	82,466	United States 80,650; United Kingdom 1,780.
Asbestos:			
Crude ________	194	112	France 50; Japan 24.
Milled fiber, all grades thousand tons__	1,210	1,197	United States 600; United Kingdom 90.
Barite, crude ________	141,998	167,857	United States 147,530; Trinidad and Tobago 15,972.
Bentonite, earths and clays [2]______	2,730	4,519	United States imports only.
Cement, portland ________	270,044	303,808	United States 287,251; Ceylon 16,390.
Clay and clay products value, thousands__	Can$8,135	Can$8,748	United States Can$6,505; Chile Can$345.
Feldspar ________	3,072	3,398	All to United States.
Fluorspar ________value__	Can$5,625	Can$9,575	All to United Kingdom.
Gypsum, crude_____thousand tons__	4,588	4,306	United States 4,278; Bahamas 28.
Lime ________	96,474	217,122	United States 216,201.
Limestone, crude, crushed and refuse ________	996,119	1,146,442	United States 1,146,097.
Nepheline syenite ________	205,904	224,255	United States 188,890; United Kingdom 15,788.
Potash materials [2] ________	759,909	1,364,050	United States imports only.
Salt [e] ________	[r] 656,500	906,500	United States 860,000.
Sand and gravel ________	418,631	624,086	United States 623,996.
Silica, quartzite ________	132,635	101,181	All to United States.
Sodium sulfate ________	97,358	105,547	United States 105,543.
Stone, cut (granite, marble, slate, and others)___value, thousands__	Can$1,184	NA	NA.
Sulfur, crude and refined________	1,174,423	1,358,908	United States 672,876; Australia 183,620.
Talc and soapstone [2]________	2,143	2,850	United States imports only.
Mineral fuels:			
Coal, bituminous ________	1,159,483	1,112,197	Japan 928,167; United States 179,640.

See footnotes at end of table.

Table 2.—Canada: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels—Continued			
Coke, all types	109,533	80,405	United States 78,558; United Kingdom 1,834.
Natural gas million cubic feet	404,143	403,909	All to United States.
Petroleum:			
Crude thousand 42-gallon barrels	101,259	108,010	All to United States.
Refinery products:			
Gasoline, total do	1,040	255	United States 244; St. Pierre and Miquelon 11.
Distillate fuel oil do	467	266	St. Pierre and Miquelon 167; United States 98.
Residual fuel oil do	1,846	1,776	All to United States.
Lubricants do	32	34	United States 29; St. Pierre and Miquelon 2.
Liquefied gasses do	4,829	7,855	United States 7,711; Japan 142.
Other petroleum and coal products, n.e.s.[1] value, thousands	Can$3,908	Can$3,218	United States Can$2,431; United Kingdom Can$448.

[e] Estimate. [r] Revised. NA Not available.
[1] Not elsewhere specified (n.e.s.).
[2] Data given are from United States Import Statistics.

Table 3.—Canada: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	1,588,776	1,857,094	Surinam 844,651; British Guiana 815,497.
Alumina	790,143	725,734	Jamaica 415,122; United States 173,360.
Scrap aluminum and alloys	18,245	30,135	All from United States.
Pigs, ingots, shot, slabs, etc.	3,625	6,300	United States 4,805; Norway 816.
Semimanufactured products	34,881	42,909	United States 37,765; United Kingdom 2,639.
Pipe, tubes, wire and cable	636	797	United States 708; United Kingdom 80.
Manufactured materials value, thousands	Can$3,178	Can$3,635	United States Can$2,890; United Kingdom Can$338.
Antimony:			
Regulus, metal content	NA	NA	NA.
Oxide and salts, metal content	322	279	United Kingdom 191; mainland China 55.
Bismuth: Metal, residues, and salts, metal content	NA	NA	NA.
Chromite, in ore and concentrate	18,864	32,122	United States 10,380; Philippines 9,657.
Cobalt oxides, gross weight kilograms	NA	NA	NA.
Copper:			
Ore, concentrate and scrap, copper content	2,207	2,141	United States 1,447; United Kingdom 604.
Blocks, pigs, ingots	6,142	5,213	United States 5,211; Norway 2.
Bars, rods, sheet, tubing, etc.	1,340	3,885	United States 2,867; United Kingdom 590.

See footnotes at end of table.

Table 3.—Canada: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Copper—Continued			
Wire	235	255	United States 243; United Kingdom 10.
Oxide and sulfate	342	163	United Kingdom 107; United States 42.
Iron and steel:			
Iron ore thousand tons	5,317	4,839	United States 4,576; Brazil 263.
Scrap iron and steel	778,589	926,048	United States 925,731; Italy 233.
Pig iron	14,416	30,367	U.S.S.R. 19,759; Finland 10,056.
Ferroalloys:			
Ferromanganese	19,804	31,354	Republic of South Africa 24,315; United Kingdom 5,591.
Silicomanganese	1,582	714	United States 576; Norway 138.
Ferromolybdenum	NA	NA	NA.
Ferrosilicon	3,114	5,679	United States 4,881; Norway 339.
Ferrotungsten	78	161	United Kingdom 76; Austria 63.
Other	1,355	2,606	United States 1,877; Rhodesia 363.
Steel:			
Ingots and equivalent primary forms	5,807	26,857	United States 14,714; Netherlands 10,144.
Hot and cold rolled products	1,425,100	NA	NA.
Lead:			
Primary and fabricated forms	381	298	United States 225; United Kingdom 72.
Oxide	1,379	1,075	United States 521; Mexico 332.
Manganese:			
Ore and concentrate, manganese content	56,984	81,176	Ghana 24,477; Brazil 16,053.
Metallic manganese	2,115	2,907	United States 1,932; Republic of South Africa 731.
Magnesium metal	1,445	1,489	United States 1,485; United Kingdom 4.
Mercury 76-pound flasks	3,867	14,091	United Kingdom 6,242; Spain 5,268.
Molybdenum: molybdic oxide, gross weight	224	345	United States 295; U.S.S.R. 48.
Nickel, unwrought and semimanufactured, including alloys	11,438	13,653	Norway 10,961; United States 2,588.
Platinum and group metals troy ounces	221,557	233,603	United Kingdom 229,029; United States 4,574.
Silver thousand troy ounces	5,198	13,413	United States 13,412; United Kingdom 1.
Sodium metal	4,285	4,277	Mostly from United States.
Tin: Blocks, pigs and bars long tons	4,849	4,993	Malaysia 4,258; United States 734.
Titanium:			
Dioxide, pure and extended	11,142	10,069	United States 9,360; United Kingdom 646.
Metallic titanium	659	729	United States 698; U.S.S.R. 30.
Tungsten, in ore and concentrate	177	162	United States 145; United Kingdom 17.
Zinc:			
Pigs, slabs, blocks, anodes	20	15	All from United States.
Bars, plates, sheets, discs, shells	1,192	1,242	United States 1,157; Belgium-Luxembourg 54.
Fabricated materials	1,196	1,007	United States 904; Belgium-Luxembourg 46.
Dust and granules	1,674	1,217	United States 1,049; Belgium-Luxembourg 155.
Nonmetals:			
Barite, ground	2,908	3,344	United States 3,203; West Germany 141.
Bentonite, clay and drilling mud	103,825	165,256	United States 71,660; Italy 304.
Cement, all types	29,647	34,128	United States 13,077; United Kingdom 8,912.
Clays, ground or unground	303,262	315,163	United States 247,956; United Kingdom 67,207.
Cryolite, natural	2,198	2,196	Denmark (Greenland) 1,900; United States 296.
Diamond:			
Unset thousand carats	65	70	Belgium-Luxembourg 40; Israel 16.

See footnotes at end of table.

Table 3.—Canada: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Diamond—Continued			
Industrial do	1,157	1,097	United States 857; United Kingdom 102.
Dust do	162	189	United States 169; United Kingdom 16.
Fluorspar	63,490	63,365	Mexico, 49,700; United States 10,683.
Fuller's earth	5,655	6,223	United States 6,197.
Gypsum, crude	73,427	68,431	Mexico 67,441; United States 967.
Lime	18,862	22,982	United States 22,809; United Kingdom 113.
Magnesium compounds:			
Dolomite, calcined	13,606	26,995	United States 26,687; Sweden 308.
Magnesia, dead burned	25,179	32,677	United States 21,598; Yugoslavia 4,586.
Mica, unmanufactured	2,422	2,725	United States 2,617; India 70.
Phosphate rock thousand tons	1,276	1,538	United States 1,532; Netherlands Antilles 6.
Phosphate fertilizers	159,655	129,905	All from United States.
Potash products, fertilizers	84,254	73,897	United States 49,912; West Germany 14,829.
Salt and brine	222,495	400,612	Mexico 172,424; United States 166,941.
Sand and gravel thousand tons	538	518	All from United States.
Silica sand do	700	757	United States 749; Norway 5.
Sodium sulfate, and Glauber's salt	27,994	26,624	United States 14,799; United Kingdom 11,372.
Stone, crushed, including stone refuse thousand tons	955	1,355	United States 1,350; Italy 4.
Stone, cut (granite, marble, slate and other)	30,107	24,536	United States 17,479; Republic of South Africa 3,089.
Sulfur, elemental	135,684	147,146	United States 147,009; Mexico 91.
Talc and soapstone	28,665	25,272	United States 24,357; Italy 905.
Vermiculite, crude	23,276	25,886	United States 23,190; Republic of South Africa 2,696.
Mineral fuels:			
Asphalt and bituminous materials, crude value, thousands	Can$640	Can$398	United States Can$357; West Germany Can$41.
Coal:			
Anthracite thousand tons	593	581	United States 576; United Kingdom 5.
Bituminous and subbituminous do	13,004	14,473	All from United States.
Briquets, coal and coke	6,477	7,198	Do.
Coke, all types (except briquets) thousand tons	686	892	Do.
Natural gas million cubic feet	9,641	15,673	Do.
Petroleum:			
Crude thousand 42-gallon barrels	143,531	144,184	Venezuela 88,995; Saudi Arabia 19,207.
Refinery products:			
Gasoline, total do	2,585	3,108	Panama (reexport) 763; Netherlands Antilles 742; United States 687.
Kerosine and jet fuel do	2,699	4,587	Netherlands Antilles 1,892; United Kingdom 1,095.
Distillate fuel oil do	10,244	15,915	Venezuela 10,588; Netherlands Antilles 2,752.
Residual fuel oil do	20,498	31,028	Netherlands Antilles 16,282; Venezuela 8,127.
Lubricants do	1,383	1,658	United States 1,430; Trinidad-Tobago 220.
Liquefied petroleum gases do	90	100	Mostly from United States.
Other refinery products do	2,819	2,289	Do.
Other petroleum and coal products value, thousands	Can$7,030	Can$6,410	United States Can$4,880; United Kingdom Can$1,526.

[e] Estimate. NA Not available.

Central African Republic

Table 1.—Central African Republic: Production of mineral commodities

Commodity [1]	1962	1963	1964	1965	1966
Metals: Gold troy ounces	100	[r] 96	[r] 75	23	48
Nonmetals: Diamond carats	265,417	402,364	442,281	536,810	539,935

[r] Revised.
[1] In addition, construction materials such as clay, sand, and gravel are probably produced, but quantitative data are not available.

Table 2.—Central African Republic: Foreign trade in selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources or destinations, 1965
Exports:			
Metals:			
Iron and steel, semimanufactures	7	---	
Scrap, nonferrous	5	---	
Nonmetals: Diamond carats	418,055	[r] 508,905	Israel [e] 204,106; United States [e] 124,553; France [e] 79,411.
Mineral fuels: Petroleum refinery products	1,388	1,267	All to Bunkers.
Imports:			
Metals:			
Aluminum	298	291	Cameroon 199; France 92.
Copper	20	10	All from France.
Iron and steel:			
Pig iron and ferroalloys	3	3	All from France.
Semimanufactures	3,833	3,500	France 3,285; Belgium-Luxembourg 200.
Lead	2	5	France 4; Netherlands 1.
Tin	1	(2)	All from France.
Zinc	1	1	Do.
Nonmetals:			
Abasives, natural	28	20	Do.
Cement, lime, and other building materials	20,370	15,753	Congo (Kinshasa) 8,800; France 4,252; Angola 2,140.
Clay construction materials	230	96	West Germany 47; France 40; Italy 9.
Fertilizer materials:			
Natural	128	---	
Manufactured	2,096	2,377	France 1,293; West Germany 963; Netherlands 120.
Nonmetallic minerals, crude, not elsewhere specified	3,839	2,571	Portuguese Guinea 2,122; Portugal 401; France 27.
Nonmetallic mineral manufactures	22	28	France 24; West Germany 3; United States 1.
Mineral fuels:			
Gas, natural or manufactured	306	264	All from France.
Petroleum refinery products	26,004	35,706	Venezuela 13,591; Netherlands Antilles 11,322; Italy 2,027.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation	44	10	All from France.

[e] Estimate. [r] Revised.
[1] Source: Statistical Office of the European communities, No. 7, 1966, pp 106-122.
[2] Less than ½ unit.

Ceylon

Table 1.—Ceylon: Production of mineral commodities

(Metric tons)

Commodity [1]	1962	1963	1964	1965	1966 [e]
Metals:					
Ilmenite	4,220	19,088	46,158	[r] 49,189	[2] 41,200
Monazite	----	----	23	36	36
Nonmetals:					
Cement	84,781	75,238	75,000	85,850	82,880
Feldspar	57	111	50	615	419
Glass sand	3,932	4,339	4,000	7,100	5,410
Graphite (exports)	[r] 8,768	[r] 8,419	[r] 10,847	[r] 8,880	10,025
Kaolin	NA	1,016	1,500	816	1,616
Salt	46,529	23,000	52,000	78,200	64,440

[e] Estimated. [r] Revised. NA Not available.

[1] Ceylon also produces a wide variety of precious and semiprecious gems but no reliable data on output are available. Exports for all types of gemstones in 1966 reportedly totaled 61,119 carats.

[2] Exports.

Table 2.—Ceylon: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Ilmenite ore and concentrates	37,575	60,544	Japan 36,390; West Germany 2,999.
Nonmetals:			
Gems, precious and semiprecious carats	NA	71,254	West Germany 65,894; Sweden 1,935.
Graphite	10,847	8,880	United Kingdom 2,588; United States 2,078; Japan 1,619.

NA Not available.

Table 3.—Ceylon: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, all forms	3,848	2,920	United Kingdom 1,809; Belgium 488; Hong Kong 454.
Antifraction metals	93	56	United Kingdom 47; Denmark 9.
Copper and alloys, all forms	814	649	United Kingdom 419; Japan 80.
Gold troy ounces	12,082	11,767	All from United Kingdom.
Iron and steel:			
Pig iron	1,108	830	United Kingdom 602; West Germany 95.
Semimanufactures	81,602	51,432	United Kingdom 17,654; Belgium 10,066; Japan 9,854.
Lead and alloys, all forms	288	681	Burma 297; United Kingdom 261.
Tin and alloys, all forms long tons	4,360	2,226	United Kingdom 1,696; United States 418.
Zinc and alloys, all forms	149	329	South Korea 111; United Kingdom 70.
Nonmetals:			
Abrasives	127	145	United Kingdom 64; West Germany 34.
Asbestos, all forms	1,421	997	Canada 689; United Kingdom 219.
Cement thousand tons	189	197	East Germany 69; U.S.S.R. 32; Rumania 21.
Fertilizer materials:			
Nitrogenous	181,908	185,652	United Kingdom 112,541; Belgium 19,031; East Germany 14,826.
Phosphatic	68,138	52,521	Egypt 48,685; Jordan 2,667.
Potassic	51,430	58,401	West Germany 27,631; France 17,513.
Others	14,185	21,140	West Germany 8,079; Japan 6,063.
Salt thousand tons	33	40	All from India.
Sulfur	2,603	1,939	West Germany 969; United States 841.
Talc	1,023	1,323	India 939; mainland China 357.
Mineral fuels:			
Coal thousand tons	173	139	Republic of South Africa 111; Australia 16.
Coke	1,956	272	United Kingdom 220; Australia 50.
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	1,255	1,494	Egypt 768; U.S.S.R. 622.
Kerosine do	1,393	1,425	U.S.S.R. 911; Rumania 494.
Distillate fuel oil do	1,634	2,420	U.S.S.R. 650; Iran 384.
Residual fuel oil do	562	1,935	U.S.S.R. 1,001; Iran 872.
Lubricant do	84	106	Sweden 96; United Kingdom 4.
Asphalt do	74	46	United States 20; Iran 7.

Chad

Table 1.—Chad: Production of natron[1]

Year	Quantity (metric tons)
1962	25,000
1963	25,000
1964	6,757
1965	7,100
1966	NA

NA Not available.
[1] Data on other mineral production, if any, are not available.

Table 2.—Chad: Foreign trade in selected mineral commodities

(Metric tons)

Commodity	1964	1965[1]	Principal sources or destinations, 1965
Exports:			
Metals:			
Iron and steel, semimanufactures	5	---	
Scrap, nonferrous	---	52	All to Netherlands.
Nonmetals: Natron	5,355	6,271	Nigeria 5,779; Cameroon 471.
Mineral fuels: Petroleum refinery products	[2] 3,942	5,723	Bunkers 5,682; Cameroon 41.
Imports:			
Metals:[3]			
Aluminum	83	59	Cameroon 56; France 3.
Copper	14	8	France 7.
Iron and steel:			
Pig iron and ferroalloys	1	4	All from France.
Semimanufactures	[r] 5,550	2,802	France 2,742; Belgium-Luxembourg 48.
Lead	6	6	All from France.
Zinc	2	---	
Nonmetals:			
Abrasives, natural	2	4	Netherlands 3; Italy 1.
Cement, lime, and other building materials	13,021	6,802	France 2,713; West Germany 2,633; Congo (Kinshasa) 984.
Clay construction materials	165	68	France 37; West Germany 31.
Fertilizers, manufactured	364	489	France 200; West Germany 289.
Nonmetallic minerals, crude, not elsewhere specified	4,460	3,746	West Germany 2,505; Sudan 654; Portuguese Guinea 222.
Nonmetallic mineral manufactures	42	37	France 28; Netherlands 3; Denmark 3.
Mineral fuels:			
Gas, natural or manufactured	157	175	France 77; United States 61; Spanish Africa 14.
Petroleum refinery products	39,992	39,689	Netherland Antilles 23,866; United States 8,675; Venezuela 2,867.

[r] Revised.
[1] Source: Statistical Office of the European Communities, No. 7, 1966, pp. 84-101.
[2] Includes gasoline 2,696; kerosine 1,190; residual fuel oil 21; and lubricants 35.
[3] Includes unwrought and semimanufactures, unless otherwise specified.

Chile

Table 1.—Chile: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Copper content of—					
Ore, concentrate, and precipitates, not further processed	35,723	46,679	46,088	[r] 27,844	39,075
Matte and slags	---	96	181	---	---
Blister	294,589	298,424	308,998	[r] 268,695	[r] 267,706
Refined metal	262,636	258,942	278,076	[r] 288,807	[r] 356,889
Total	592,948	604,141	633,343	[r] 585,346	[r] 663,670
Gold content of—					
Gold ore and concentrate troy ounces	10,682	21,793	9,299	216	21
Copper ore, concentrate, metal troy ounces	53,367	53,420	54,497	57,068	74,484
Lead ore do	63	26	15	---	---
Silver ore do	---	---	5	---	---
Placer gold do	71	113	27	45	9
Refined metal (other than in above) do	826	1,937	1,155	---	---
Total do	65,009	77,294	64,993	57,329	74,514
Iron and steel:					
Iron ore thousand tons	8,092	8,507	9,853	[r] 12,721	12,246
Average iron content percent	63.69	64.43	64.40	63.91	63.80
Smelter and mill products:					
Pig iron thousand tons	383	418	437	[r] 309	433
Ferroalloys do	16	17	10	13	---
Steel ingots do	528	521	584	[r] 477	574
Semifinished products do	413	442	474	NA	449
Flat rolled products do	346	366	379	NA	469
Pipe and structural shapes do	9	10	9	NA	NA
Lead content of—					
Ore and concentrate, not further processed	1,454	868	1,116	809	885
Smelter products	254	220	---	---	---
Total	1,708	1,088	1,116	809	885
Manganese ore	43,162	46,479	19,861	16,588	17,921
Average manganese content percent	45.50	44.26	46.25	46.77	46.93
Mercury 76-pound flasks	791	613	267	428	[e] 110
Molybdenum concentrate, content, molybdenum (Mo)	2,384	2,903	3,807	[r] 3,603	4,735
Silver content of ore and concentrate of—					
Silver thousand troy ounces	---	4	---	NA	617
Copper (including blister) do	2,261	2,710	3,041	NA	2,993
Lead and zinc do	10	39	52	NA	---
Gold do	5	15	4	NA	---
Total do	2,276	2,768	3,097	[r] 3,273	3,610
Zinc, content of ore and concentrate	496	505	1,005	1,111	2,087
Nonmetals:					
Barite	1,049	1,019	1,091	2,851	2,038
Borates: Ulexite, 33 percent boron oxide (B_2O_3)	3,814	5,964	3,314	9,203	3,742
Cement, hydraulic:					
Portland thousand tons	1,022	1,166	1,267	1,188	1,364
Pozzolan do	109	129	141	142	145
Total do	1,131	1,295	1,407	1,337	1,509
Clays:					
Kaolin	30,464	36,899	45,963	30,100	40,501
Other	NA	25,675	17,083	NA	37,747

See footnotes at end of table.

Table 1.—Chile: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals—Continued					
Diatomite	NA	NA	NA	129	479
Feldspar	1,156	424	827	415	1,117
Flourspar	---	---	---	---	215
Gypsum:					
Crude	115,212	116,328	119,160	107,158	119,620
Calcined	33,554	47,893	44,063	67,142	45,552
Iodine	2,348	2,156	2,161	2,280	2,931
Lapis lazuli kilograms	9,100	3,100	16,500	19,665	---
Limestone thousand tons	1,840	1,846	1,923	1,767	2,216
Nitrates:					
Sodium do	1,013	993	1,070	1,050	945
Potassium do	107	143	104	109	117
Total do	1,120	1,136	1,174	1,159	1,062
Phosphates:					
Apatite	12,492	13,909	13,138	13,686	---
Guano:					
Red	12,132	18,248	11,464	17,958	13,354
White	3,914	3,947	3,587	3,848	2,399
Total	16,046	22,195	15,051	21,806	15,753
Total phophates	28,538	36,104	28,189	35,492	15,753
Quartz	58,713	80,380	119,111	93,644	128,314
Salt, common	51,013	48,242	93,959	99,985	202,619
Sodium sulfate	12,986	32,421	30,685	56,338	34,165
Sulfur:					
Refined and in caliche	61,173	43,437	43,878	34,978	41,442
Content of sulfuric acid	14,739	13,873	15,675	10,635	11,458
Total	[r] 75,912	57,310	59,553	45,613	52,900
Talc	1,901	2,582	2,760	1,489	2,269
Other	[1] 35,727	[2] 16,035	[3] 42,099	NA	[4] 26,658
Mineral fuels:					
Coal, bituminous and lignite:					
Mine run thousand tons	1,855	1,719	1,789	1,727	1,636
Marketable do	1,723	1,604	1,677	1,629	1,528
Coke:					
Oven and beehive do	236	249	246	213	[e] 200
Gashouse do	[e] 86	99	83	[e] 81	[e] 80
Natural gas (gross)[5] million cubic feet	[r] 132,844	[r] 192,402	[r] 235,166	[r] 231,931	249,297
Natural gas liquids thousand 42-gallon barrels	519	1,017	1,221	1,950	NA
Petroleum:					
Crude thousand 42-gallon barrels	11,689	13,206	13,687	12,704	12,428
Refinery products:					
Aviation gasoline do	441	369	415	320	284
Motor gasoline do	5,899	5,679	6,068	6,386	7,215
Kerosine do	1,604	1,837	1,910	1,865	2,031
Distillate fuel oil do	2,407	2,541	3,063	3,037	3,638
Residual fuel oil do	2,492	2,643	4,072	3,766	5,716
Liquid petroleum gas do	407	428	511	539	2,175
Solvents [6] do	44	39	129	---	143
Other [7] do	45	61	26	180	214
Total do	13,339	13,597	[8] 16,194	[8] 16,093	[9] 21,416

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Includes clay (other), iron oxide pigment, and silica sand.

[2] Includes iron oxide pigment and silica sand

[3] Includes iron oxide pigment, marble, silica sand, dolomite, and mica.

[4] Includes iron oxide pigment and dolomite.

[5] Calculated at 35.315 cubic feet per cubic meter.

[6] Includes white gasoline.

[7] Includes asphalt and miscellaneous petroleum products.

[8] Includes estimate on Manantiales topping plant production.

[9] Excludes internal consumption of Empresa Nacional del Petróleo (ENAP).

Table 2.—Chile: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Copper:			
Ore and concentrate	25,350	5,819	Japan 3,373; Sweden 1,893.
Cement	8,818	12,239	Japan 11,223.
Precipitates	6,906	8,120	West Germany 5,595; Japan 2,525.
Sulfate	-----	10	All to Brazil.
Oxide	115	391	Japan 213; Netherlands 108; Spain 70.
Slag, dross, and skimmings	1,556	801	All to Sweden.
Metal:			
Ingot and other primary forms:			
Blister	325,321	274,182	United States 144,608; United Kingdom 38,645; West Germany 35,465.
Fire refined	71,205	68,281	United Kingdom 27,020; Italy 10,766; Netherlands 9,440.
Electroyltic	138,402	150,738	Netherlands 46,141; Sweden 18,474; West Germany 17,898.
Semimanufactures:			
Unalloyed:			
Plates and sheets	22,234	28,041	United States 12,737; Netherlands 6,194; Italy 4,692.
Wire	25,545	36,488	Netherlands 10,938; United States 6,261; Japan 5,005.
Other	623	649	United States 304; Colombia 62; Peru 52.
Alloyed	154	67	United States 23; Peru 23.
Gold ores and concentrates, including auriferous polymetal ores and concentrates	25,719	16,145	Japan 7,622; United States 4,803; Belgium 3,489.
Iron and steel:			
Iron ore thousand tons	9,114	10,729	Japan 6,891; United States 2,765.
Ferroalloys	5,637	4,904	United States 2,291; Colombia 1,866.
Semimanufactures	19,564	4,957	Argentina 3,794; Uruguay 1,086.
Lead, lead-copper, ore, concentrate and slag	[r] 1,664	707	West Germany 440; Belgium 267.
Manganese ore and concentrate	3,522	12,844	United States 9,548; West Germany 3,296.
Mercury 76-pound flasks	35	98	Netherlands 63; Belgium 29.
Molybdenum:			
Concentrate	7,680	6,501	West Germany 2,224; United Kingdom 2,116.
Refined metal	-----	1,006	West Germany 354; Japan 246.
Silver-copper, and silver-copper-lead concentrates	48,024	30,217	West Germany 19,394; Japan 4,918; Sweden 3,905.
Zinc:			
Concentrate	3,712	-----	
Slag	79	153	Netherlands 90; Belgium 63.
Nonmetals:			
Borate, calcium	-----	180	All to Uruguay.
Cement	257	1,695	Bolivia 855; Peru 840.
Iodine	1,992	2,262	United States 1,022; United Kingdom 573.
Kaolin	-----	5	All to Colombia.
Lapis lazuli kilograms	5,275	10,510	United States 4,700; West Germany 2,446.
Marble	33	31	All to Japan.
Nitrates:			
Potassium	83,542	97,607	United States 47,800; Brazil 27,272.
Sodium	824,885	797,697	United States 319,252; Spain 104,424.
Quartz	-----	5	All to West Germany.
Salt, common:			
Crude	1,000	20,000	All to Brazil.
Refined	2,317	-----	
Sodium sulfate	1,066	1,275	Mainly to Brazil.
Sulfur	250	-----	
Mineral fuels:			
Coal	101	850	Bolivia 721; United Kingdom 129.
Coal briquets	-----	200	All to Bolivia.
Coal tar products (oils and greases)	635	-----	
Natural gas liquids: Propane	61,567	31,403	Argentina 26,688; Brazil 4,105.

See footnotes at end of table.

Table 2.—Chile: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels—Continued			
Petroleum refinery products:			
Lubricating oil	8	41	Peru 34; United States 7.
Gasoline	-----	44	All to United Kingdom.

[r] Revised.

Source: Comercio Exterior, Chile, 1964 y 1965, Departamento de Estadísticas Del Servicio de Aduanas, Santiago, Chile.

Table 3.—Chile: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
In powder form___kilograms__	4,422	1,233	Belgium 975; United Kingdom 250.
Ingots	2,542	3,148	United States 2,260; Canada 831.
Filings	127	57	Mainly from United States.
Semimanufactures	[r] 194	216	United States 160; Canada 20.
Antimony, all forms	33	65	United Kingdom 30; Belgium 11; Taiwan 10.
Arsenic, metallic	8	-----	
Bismuth, all forms	-----	1	All from Peru.
Cadmium, all forms	2	3	All from Mexico.
Chromium, all forms	37	90	West Germany 38; Norway 26; France 13.
Copper and its alloys, semimanufactures	30	14	United States 6; United Kingdom 3.
Gold, semiwrought and wrought troy ounces__	3,536	5	All from West Germany.
Iron and steel:			
Pig iron	51	558	All from United States.
Ferroalloys	376	396	Mainly from United States.
Filings, cuttings	120	122	Mainly from United Kingdom.
Bars	2,498	6,494	United States 5,039; West Germany 574.
Structural shapes and sections	2,301	6,054	United States 3,118; Italy 996.
Plates and sheets	[r] 4,261	31,238	United States 17,561; Japan 11,408.
Straps and hoops	205	276	West Germany 177; Belgium 57.
Special alloy iron and steel	1,184	2,405	West Germany 1,025; United States 685.
Lead:			
Ingots:			
Unalloyed	1,802	1,717	Peru 824; United States 605.
Alloyed	242	66	All from Peru.
Semimanufactures	58	86	United States 73; United Kingdom 11.
Filings, cuttings	(1)	1	All from United States.
Manganese and chromium, mixed ore	-----	13	All from Argentina.
Mercury__________76-pound flasks__	16	3	United States 2; West Germany 1.
Molybdenum, all forms	3	2	All from West Germany.
Nickel:			
Ingots	12	20	Canada 13; United Kingdom 6.
Electrolytic, in pieces	25	55	Canada 26; France 14; United States 8.
Semimanufactures	46	13	United States 9; Austria 2.
Filings, cuttings	5	11	United States 6; Canada 5.
Platinum, all forms__troy ounces__	937	90	West Germany 35; Switzerland 32.
Tin: Ingots____________long tons__	795	791	United Kingdom 622; Malaysia 100.
Zinc:			
Ingots	7,881	6,495	Peru 2,254; Mexico 1,848; United States 1,473.
Semimanufactures	231	265	Belgium 81; United States 78.
Other ores and concentrates, not elsewhere specified	73	106	Mainly from Australia.
Other metals, not elsewhere specified	12	36	United States 8; West Germany 8.
Nonmetals:			
Abrasives:			
Emery and carborundum	74	101	West Germany 55; France 18.
Other	91	100	West Germany 61; United States 26.

See footnotes at end of table.

Table 3.—Chile: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Asbestos	7,341	6,180	Canada 4,275; Republic of South Africa 1,135.
Cement	9,428	8,143	United Kingdom 5,997; West Germany 1,273.
Chalk	30	2	United Kingdom 1; United States 1.
Clays:			
Bentonite	2,270	1,847	Argentina 1,662; United States 179.
Kaolin	245	260	United States 187; West Germany 23.
Refractory	483	553	United States 380; West Germany 68.
Other, not elsewhere specified	2,735	1,925	United States 1,451; West Germany 419.
Diatomite	50	320	United States 297; West Germany 21.
Dolomite	36,888	17,479	United States 16,580; Argentina 849.
Feldspar	347	-----	
Fertilizers:			
Guano	2,024	-----	
Potassic	15,261	11,134	United States 3,800; West Germany 3,377.
Phosphate	69,884	94,938	Belgium 37,145; United States 19,503; West Germany 17,320.
Superphosphate	68,884	94,938	United States 64,886; Tunisia 25,014.
Fuller's earth	673	5	All from United Kingdom.
Graphite	172	85	West Germany 38; United Kingdom 20.
Gypsum	2	-----	
Lime	35	30	West Germany 20; United States 5.
Magnesite:			
Raw	45	42	United Kingdom 31; Belgium 5.
Calcined	10,446	7,408	United States 6,111; Austria 1,125.
Mica	10	15	Brazil 4; Spain 3; United Kingdom 3.
Mineral wool	25	68	Canada 55; United States 13.
Potassium hydroxide	221	182	Spain 72; Belgium 52; West Germany 22.
Quartz	5	1,012	All from United States.
Salt	18	10	Do.
Sand	61	61	West Germany 34; United States 15.
Sodium carbonate	8,730	9,997	West Germany 5,581; United Kingdom 2,524.
Sodium hydroxide	11,572	8,932	United Kingdom 3,151; West Germany 2,295.
Stone, dimension:			
Marble	34	2	All from Argentina.
Other	155	85	Belgium 76; United States 9.
Talc	144	262	Argentina 176; Italy 45.
Other nonmetals, not elsewhere specified	466	12,925	Morocco 9,777; United States 2,793.
Mineral fuels:			
Coal:			
Anthracite	10	494	Mainly from West Germany.
Bituminous	437,211	316,366	All from United States.
Coke, metallurgical	105	550	Mainly from United States.
Petroleum: Crude	804,057	1,073,061	Venezuela 729,217; United States 169,871.
Refinery products:			
Gasoline:			
Aviation	731	349	All from Netherlands.
Motor	14,184	9,915	Curaçao 8,126; Netherlands 1,651.
Kerosine	48,529	67,484	Curaçao 46,884; Netherlands 20,504.
Distillate fuel oil	281,594	116,099	Peru 39,557; Curaçao 33,642; United States 31,088.
Residual fuel oil	116,746	146,468	Venezuela 125,454; United States 18,423.
Lubricants, including greases	38,925	48,104	United States 32,486; Venezuela 5,764.
Asphalt	440	364	United Kingdom 300; United States 58.
Paraffin	7,913	11,367	United States 5,752; East Germany 2,266.
Other	261	272	Mainly from United States.

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[r] Revised.

[1] Less than ½ unit.

Source: Comercio Exterior, Chile, 1964 y 1965, Departamento de Estadísticas Del Servicio de Aduanas, Santiago, Chile.

Mainland China

Table 1.—Mainland China: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite [2]	400,000	400,000	400,000	400,000	400,000
Alumina	200,000	200,000	200,000	200,000	NA
Metal, refined	100,000	100,000	100,000	100,000	100,000
Antimony, mine	15,000	15,000	15,000	15,000	15,000
Bismuth, mine	300	300	300	300	300
Copper:					
Mine	90,000	90,000	90,000	90,000	90,000
Metal, refined	100,000	100,000	100,000	100,000	100,000
Gold troy ounces	60,000	60,000	60,000	60,000	60,000
Iron and steel:					
Iron ore [3] thousand tons	30,000	35,000	37,000	39000	40,000
Pig iron do	15,000	17,000	18,000	19,000	20,000
Steel ingots and castings do	10,000	12,000	14,000	15,000	16,000
Rolled steel do	9,000	10,000	11,000	12,000	NA
Lead:					
Mine	90,000	100,000	100,000	100,000	100,000
Metal, refined	85,000	90,000	100,000	100,000	100,000
Magnesium	1,000	1,000	1,000	1,000	1,000
Manganese ore thousand tons	800	1,000	1,000	1,000	1,000
Molybdenum, mine	1,500	1,500	1,500	1,500	1,500
Silver troy ounces	800,000	800,000	800,000	800,000	800,000
Tin, refined long tons	28,000	28,000	25,000	25,000	22,000
Tungsten concentrate, about 60 percent WO_3	[r] 22,600	[r] 22,600	[r] 20,400	[r] 17,000	17,000
Zinc:					
Mine	100,000	100,000	100,000	100,000	100,000
Metal, refined	90,000	90,000	90,000	90,000	90,000
Nonmetals:					
Asbestos	90,000	100,000	120,000	130,000	130,000
Barite	80,000	[r] 90,000	100,000	100,000	120,000
Cement thousand tons	8,000	10,000	10,500	11,000	11,000
Fluorspar thousand tons	200,000	200,000	200,000	220,000	230,000
Graphite	40,000	40,000	40,000	40,000	40,000
Gypsum	400,000	500,000	600,000	600,000	600,000
Magnesite thousand tons	800	900	1,000	1,000	1,000
Phosphate rock	600,000	700,000	800,000	900,000	1,000,000
Pyrite thousand tons	1,100	1,200	1,300	1,500	1,500
Salt do	10,000	10,500	10,000	13,000	13,000
Sulfur	250,000	250,000	250,000	250,000	250,000
Talc	150,000	150,000	150,000	150,000	150,000
Mineral fuels:					
Coal thousand tons	250,000	270,000	290,000	300,000	325,000
Coke oven and and beehive do	15,000	15,000	15,000	16,000	17,000
Petroleum:					
Crude do	6,800	7,500	8,500	10,000	13,000
Refinery products do	6,500	7,000	8,000	9,000	NA

[r] Revised.

[1] Estimated. In addition to commodities listed, mainland China also produces china clay (kaolin), lime, feldspar, mica, arsenic, mercury, and low temperature coke.

[2] Mostly diasporic bauxite. Data shown include only the bauxite for aluminum manufacture, in addition 100,000 to 200,000 tons were produced each year for making refractories.

[3] Converted to equivalent 50 percent Fe ore.

Christmas Island, Nauru, Ocean Island, and Makatea

Table 1.—Christmas Island (Indian Ocean), Nauru, Ocean Island and Makatea: Production of phosphate rock

(Thousand metric tons)

Island	1962	1963	1964	1965	1966
Christmas Island (exports)	r 529	r 662	r 787	r 751	966
Nauru (exports)	1,540	1,572	1,849	r 1,480	2,037
Ocean Island (exports)	261	362	328	r 365	380
Makatea (French Polynesia)	317	335	388	r 308	200

r Revised.

Colombia

Table 1.—Colombia: Production of mineral commodities

(Metric tons unless otherwise specified)

	1962	1963	1964	1965	1966
Metals:					
Antimony concentrate	----	30	----	----	----
Chromite	140	110	400	260	----
Gold thousand troy ounces	397	325	365	319	275
Iron and steel:					
Iron ore thousand tons	680	695	[r] 731	706	662
Pig iron do	[r] 145	[r] 202	[r] 205	[r] 204	169
Steel ingots and castings do	157	222	[r] 230	[r] 242	217
Lead concentrate	670	500	806	730	948
Mercury 76-pound flasks	----	3	3	46	84
Platinum, crude troy ounces	14,100	22,983	20,647	[r] 11,141	17,780
Silver do	131,599	106,279	130,353	[r] 113,451	106,757
Zinc:					
Ore and concentrate	431	600	710	400	804
Slab	194	----	----	----	----
Nonmetals:					
Barite	8,000	10,500	10,200	8,800	[e] 9,000
Cement:					
Portland thousand tons	1,725	1,810	1,940	2,048	2,202
White do	21	25	32	35	26
Total do	1,746	1,835	1,972	2,083	2,228
Clays:					
Kaolin do	70	75	81	83	26
For cement do	350	360	360	420	753
For construction do	NA	NA	NA	1,300	NA
Other industrial use do	105	110	112	117	631
Diatomite	150	2,200	231	200	----
Dolomite	2,680	5,100	3,217	11,704	6,480
Emerald:					
Gem thousand carats	51	51	[e] 55	42	[e] 35
Moralla do	294	2,004	[e] 214	403	294
Feldspar thousand tons	16	13	12	[r] 11	19
Gypsum do	83	102	108	112	[e] 115
Lime do	85	97	100	108	NA
Limestone do	3,200	3,400	4,273	3,890	3,231
Magnesite	100	250	220	190	[e] 190
Marble cubic meters	650	800	650	1,700	1,000
Quartz, quartzite, industrial sand thousand tons	125	130	135	150	9
Salt:					
Terrestrial do	266	265	289	280	283
Marine do	39	34	51	46	121
Total	305	299	340	326	404
Sulfur	10,207	13,000	12,134	18,405	20,980
Talc	650	650	730	400	1,195
Mineral fuels:					
Coal:					
Anthracite	NA	NA	[1] 2,000	NA	NA
Bituminous thousand tons	3,000	3,200	3,000	3,100	[e] 3,000
Coke do	360	400	420	[2] 470	323
Natural gas million cubic feet	78,424	82,979	[r] 84,687	91,662	98,100
Natural gas liquids thousand 42-gallon barrels	1,334	1,392	1,658	2,189	NA
Petroleum:					
Crude do	51,908	60,343	62,596	[r] 73,196	71,430

Table 1.—Colombia: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

	1962	1963	1964	1965	1966
Minerals fuels—Continued					
Refinery products:					
Aviation gasoline thousand 42-gallon barrels	601	566	540	786	784
Motor gasoline do	10,779	10,858	11,312	12,377	13,132
Jet fuel do	174	153	195	244	396
Kerosine do	1,856	1,809	1,793	1,940	2,102
Distillate fuel oil do	4,069	4,075	[r] 4,123	4,437	4,849
Residual fuel oil do	10,478	9,193	8,742	10,884	12,157
Lubricants, including greases do	136	140	372	448	480
Liquefied petroleum gas do	322	356	[r] 485	837	606
Other do	2,050	2,318	[r] 4,375	2,889	2,875
Total do	30,465	29,468	[r] 31,937	34,847	37,381

[p] Preliminary. [r] Revised. [e] Estimate. NA Not available.

[1] Exports.

[2] Includes 35,000 tons of coke breeze.

Table 2.—Colombia: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal destinations, 1964
Metals:			
Iron and steel:			
Semimanufactures	9	278	Panama 129; Ecuador 127.
Scrap	33	-----	
Platinum troy ounces	22,983	20,647	All to United States.
Nonferrous metals, including scrap	21	615	Mainly to United States.
Metallic waste and slags	20	NA	
Ore and minerals, not further specified	20	219	All to United States.
Nonmetals:			
Cement	122,347	185,733	United States 131,486; Costa Rica 38,320.
Clay and clay products:			
Kaolin	12	-----	
Common brick	[r] 164	120	NA.
Refractory products	183	70	NA.
Diamond, industrial carats	25,000	-----	
Fertilizer materials, manufactured:			
Ammonia	-----	9,859	All to Costa Rica.
Mica, sheet and film, simply cut	12	-----	
Mineral fuels:			
Coal, all types	238	2,401	Mainly to Belgium-Luxembourg.
Coke	449	893	All to Venezuela.
Coal tar and mineral pitch	24,723	53,514	Argentina 28,760; United Kingdom 24,754.
Petroleum:			
Crude thousand 42-gallon barrels	31,171	30,712	Trinidad 12,244; United States 10,153; Netherlands 5,389.
Refinery products:			
Motor gasoline do	16	95	Dominican Republic 51; Peru 44.
Kerosine do	17	-----	
Distillate fuel oil do	123	37	Mainly to Panama.
Residual fuel oil do	2,257	4,520	United States 2,017; Netherlands 1,178; Peru 849.
Lubricants including greases do	31	-----	
Asphalt	1,442	1,403	All to Ecuador.
Other	[r] 12,686	11,427	Mainly to United Kingdom.

[r] Revised.

Sources: 1963—DANE, Anuario de Comercio Exterior 1963; 1964—Statistical Office of the United Nations and DANE Boletín Mensual de Estadística, Abril 1966, 168 pp.

Table 3.—Colombia: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal sources, 1964
Metals:			
Aluminum:			
Bauxite	7,200	4,484	Surinam 3,330; British Guiana 1,100.
Alumina	101	94	Mainly from United States.
Metal and alloys:			
Ingots, castings, and scrap	^{r} 6,812	6,262	United States 3,554; Canada 2,705.
Semimanufactures	^{r} 940	1,201	United States 324; United Kingdom 249; Finland 208.
Antimony and alloys, unwrought	67	11	Mainly from United States.
Copper:			
Copper sulfate	51	7	Do.
Ingots and other primary forms:			
Unalloyed	312	528	Mexico 218; Chile 142; Spain 60.
Alloyed	130	114	All from Mexico.
Semimanufactures	4,569	5,987	Finland 1,697; United Kingdom 833; United States 805.
Iron and steel:			
Pig iron and scrap	5,332	9,566	United States 9,410; Venezuela 156.
Ferroalloys	3,693	3,502	Republic of South Africa 1,298; West Germany 719; Canada 584.
Ingots, blooms, and billets	1,152	45,386	Belgium-Luxembourg 27,297; Venezulea 18,064.
Semimanufactures	169,314	222,374	Japan 90,680; United States 40,886; West Germany 20,044.
Lead:			
Ore	254	97	All from Peru.
Ingots and plates	1,397	1,406	Mexico 541; Denmark 282; United States 244.
Semimanufactures	44	32	Mainly from United States.
Litharge	444	663	Mexico 412; United States 240.
Magnesium and alloys, unwrought	1	23	Canada 8; United States 4.
Manganese oxide	21	516	United States 273; United Kingdom 100.
Mercury ....76-pound flasks	172	203	Italy 116; United States 58.
Nickel:			
Ingots and anodes	49	38	United States 30; West Germany 5.
Castings and forgings	238	-----	
Semimanufactures	109	^{r} 493	United States 271; United Kingdom 267.
Platinum, unwrought..troy ounces	64	118	All from United States.
Silver:			
Ingots, bars, and powder ....do	50,477	61,086	Peru 35,366; Mexico 19,355.
Semimanufactures ....do	3,665	5,592	Mainly from United States.
Tin and alloys:			
Ingots........long tons	^{r} 291	115	West Germany 35; Malaya 26; United States 21.
Semimanufactures ....do	^{r} 17	^{r} 13	West Germany 8; United States 3.
Zinc:			
Ore	194	-----	
Slabs, plates, and pellets	4,815	4,370	Mexico 2,000; United States 1,510.
Scrap	12	-----	
Semimanufactures	150	170	United States 58; Belgium-Luxembourg 40; Spain 40.
Other ores and minerals	979	930	United States 540; Canada 250.
Other metals and alloys	9	31	Canada 14; United States 13.
Nonmetals:			
Abrasives, not elsewhere specified:			
Crude	250	^{r} 367	West Germany 136; France 77; United States 61.
Grinding stones and wheels	249	257	Mexico 90; Brazil 53; West Germany 40.
Asbestos, crude	12,933	8,013	Canada 7,017.
Barite and witherite	17	21	Mainly from West Germany.
Borax, refined	977	769	United States 587; West Germany 181.
Cement	566	309	West Germany 159; United States 122.
Clay and clay products:			
Bentonite	2,641	2,229	United States 1,854; Argentina 374.
Kaolin	3,422	3,231	Mainly from United States.
Other, crude, calcined, washed or ground:			
Refractory	756	992	Do.
Nonrefractory	155	181	All from United States.
Refractory brick, all types	2,960	1,855	United States 1,022; Austria 452.

Table 3.—Colombia: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal sources, 1964
Cryolite	4	15	Netherlands 10; Canada 3.
Dolomite	4,800	4,596	All from Belgium-Luxembourg.
Feldspar and fluorspar	518	205	United States 150.
Fertilizers:			
Nitrogenous	20,154	7,352	Mainly from West Germany.
Phosphatic	54,009	57,215	United States 25,868; Netherlands 3,475.
Potassic	35,284	46,630	United States 34,194; West Germany 4,828; France 4,159.
Mixed	33,747	55,739	United States 32,409; Netherlands 10,623; West Germany 7,208.
Graphite	45	40	United States 25; Malagasy Republic 7.
Gypsum	471	8,608	Dominican Republic 8,000.
Infusorial earth	870	1,184	United States 983; Mexico 190.
Lime	2	-----	
Magnesite	37	48	Austria 30; United States 12.
Mica:			
Crude	136	118	All from United States.
Worked	10	10	West Germany 4; East Germany 3.
Pigments, mineral	30	120	All from Spain.
Quartz:			
Ground	93	[r] 27	All from United States.
Grinding balls	236	319	Belgium-Luxembourg 176; France 143.
Salt	7	[r] 6	United States 3; West Germany 3.
Sand	668	[r] 466	All from United States.
Slate	129	157	Spain 94; Portugal 63.
Sodium carbonate	7,817	8,535	All from United States.
Sodium hydroxide	22,572	41,521	Mainly from United States.
Stone, building and monumental	7	NA	
Sulfur:			
Crude	1,011	1,500	All from Mexico.
Refined	2,389	62	All from United States.
Talc and steatite	1,006	997	United States 461; Italy 326; Brazil 159.
Inorganic bases, not elsewhere specified	NA	831	NA.
Mineral fuels:			
Asphalt, natural: Gilsonite	9	12	All from United States
Carbon black	5,645	4,961	United States 4,525.
Coal, anthracite	15	267	All from United States.
Coke	11	-----	
Mineral tars and products	129	388	United Kingdom 294; United States 93.
Petroleum refinery products:			
Gasoline:			
Aviation thousand 42-gallon barrels	281	375	Mainly from Netherlands Antilles.
Motor do	-----	7	NA.
Kerosine and jet fuels do	[r] 3	7	Mainly from United States.
Distillate fuel oil do	[r] 1	2	Mainly from United States.
Lubricants including greases	30,631	18,435	Mainly from United States.
Vaseline and paraffin	26,000	28,819	East Germany 11,481; United States 10,966; West Germany 5,898.
Other	1,129	452	United Kingdom 295; United States 157.
Other crude chemicals from oil, coal, and gas distillation	1,828	2,785	United States 1,645; Netherlands 915.

[r] Revised. NA Not available.

Republic of Congo (Brazzaville)

Table 1.—Republic of Congo (Brazzaville): Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity[1]	1962	1963	1964	1965	1966
Metals:[2]					
Copper	840	290	NA	NA	NA
Gold ----- troy ounces	[r] 3,729	[r] 2,954	[r] 3,567	[r] 3,697	4,080
Lead	334	330	2,169	[e] 2,800	[e] 3,600
Tin ----- long tons	46	43	34	[r] 44	48
Zinc	713	713	5,060	[r] 6,900	[e] 6,900
Mineral fuels:					
Petroleum, crude	123,393	109,217	82,506	71,273	[e] 71,000

[e] Estimate. [r] Revised.

[1] In addition, construction materials such as clay, sand, and gravel are probably produced, but quantitative data are not available. Diamond output, credited by some sources to the Congo (Brazzaville), is believed to have originated wholly outside of the country.

[2] Metal content of marketable ore or concentrate produced, except gold which is fine metal recovered in mining.

Table 2.—Republic of Congo (Brazzaville): Exports of selected mineral commodities[1]

(Metric tons)

Commodity	1964	1965[2]	Principal destinations, 1965
Metals:[3]			
Iron and steel:			
Scrap	612	1,016	All to Italy.
Semimanufactures	14	9	All to France.
Lead	15	5	All to Belgium-Luxembourg.
Zinc	-----	3	All to West Germany.
Nonferrous ore and concentrate[4]	8,954	16,687	France 9,004; United Kingom 4,497; Netherlands 3,068.
Nonferrous, scrap	56	43	West Germany 20; Ivory Coast 16; Netherlands 3.
Nonmetals: Minerals, crude, unspecified[5]	-----	11	All to France.
Mineral fuels:			
Petroleum:			
Crude	79,203	71,001	Do.
Refinery products	[6] 12,574	7,253	Bunkers 7,217; Congo (Kinshasa) 32; Cameroon 4.

[1] Does not include reexports of diamonds which enter the country illegally and are the main mineral source of export earnings.

[2] Source: Statistical Office of the European Communities, No. 7, 1966, pp. 149–170.

[3] Includes unwrought and semimanufactures unless otherwise specified.

[4] Mainly lead-zinc concentrate.

[5] For details on specific commodities included, see section on source materials.

[6] Includes gasoline 1,246; kerosine 11,306; and lubricants 22.

Table 3.—Republic of Congo (Brazzaville): Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	[1] 1965	Principal sources, 1965
Metals: [2]			
Aluminum	300	263	Cameroon 149; France 109; West Germany 6.
Copper	27	57	France 54; United States 4.
Iron and steel:			
Pig iron and ferroalloys	5	10	All from France.
Semimanufactures:			
Bars, rods, and sections	5,349	3,827	France 3,385; West Germany 200; China (mainland) 150.
Plate, sheet, and strip	4,256	5,539	France 3,755; Belgium-Luxembourg 841; China (mainland) 544.
Rails and accessories	2,640	3,513	France 3,509; U.S.S.R. 4.
Tubes, pipes, and fittings	852	2,262	France 1,855; Belgium-Luxembourg 285; U.S.S.R. 53.
Other	220	63	France 58; West Germany 4.
Total	13,317	15,204	
Lead	25	18	France 16; U.S.S.R. 1.
Tin long tons	2	6	All from France.
Zinc	16	7	Do.
Nonmetals:			
Abrasives, natural	4	133	France 126; Belgium-Luxembourg 7.
Cement, lime, and other building materials	58,169	44,060	Angola 19,125; France 8,273; Congo (Kinshasa) 6,748; Belgium-Luxembourg 6,645.
Clay construction materials	450	251	France 121; West Germany 108; Netherlands 9.
Fertilizer materials:			
Natural	-----	722	Belgium-Luxembourg 699; France 24.
Manufactured	3,622	5,522	France 3,858; Belgium-Luxembourg 1,663.
Stone, sand, and gravel	34	37	All from France.
Sulfur and pyrite	-----	160	Do.
Nonmetallic minerals, crude, unspecified	2,837	2,269	Angola 1,560; Senegal 358; U.A.R. (Egypt) 183.
Nonmetallic mineral manufactures	63	116	Italy 50; France 48; West Germany 8.
Mineral fuels:			
Coal, coke, and briquets	123	187	All from France.
Petroleum refinery products	102,110	89,569	Venezuela 32,353; Netherlands Antilles 25,609; Italy 11,075; bunkers 6,147.
Gas, natural and manufactured	715	616	France 588; Italy 27.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation	2	3	All from France.

[1] Source: Statistical Office of the European Communities, No. 7, 1966, pp. 149–170.

[2] Includes unwrought and semimanufactures, unless otherwise specified.

Democratic Republic of the Congo (Kinshasa)

Table 1.—Democratic Republic of the Congo (Kinshasa): Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Beryl	276	213	123	19	[e] 19
Cadmium [r]	97	115	165	126	149
Cobalt	9,683	7,376	7,676	8,388	11,297
Columbium, concentrate [1] kilograms	25,331	74,133	------	[r] 19,958	58,060
Copper, blister and refined	296,996	271,337	276,640	288,605	315,664
Germanium, recoverable content of concentrate kilograms	8,006	7,283	8,271	[r] 14,638	14,970
Gold troy ounces	203,707	214,574	188,693	[r] 90,408	158,632
Lead	283	1,185	1,045	1,551	NA
Manganese ore	[r] 316,197	270,033	309,700	377,575	[2] 249,303
Monazite	------	------	------	20	NA
Palladium troy ounces	------	3	------	------	------
Platinum do	------	4	1	------	------
Silver do	1,595,513	1,097,176	1,480,252	1,538,413	1,851,400
Tantalum, concentrate [1] kilograms	103,502	66,794	45,885	[r] 72,574	450,415
Tin:					
Mine, metal content of ore long tons	6,875	6,883	5,108	6,324	[e] 5,100
Smelter do	945	1,441	1,485	[r] 1,815	2,002
Tungsten ore and concentrate, 60 per cent WO_3 basis	[r] 368	202	234	215	189
Zinc:					
Mine, metal content of ore	95,735	103,545	105,540	119,154	114,850
Refined, electrolytic	56,027	52,724	55,553	57,019	61,500
Nonmetals:					
Cement thousand tons	197	246	225	248	[e] 264
Diamond:					
Gem thousand carats	256	296	295	14	[e] 15
Industrial do	14,400	14,468	14,457	12,490	12,417
Lime	47,284	66,703	67,722	65,228	[e] 61,000
Salt	550	343	525	125	NA
Mineral fuels:					
Coal, bituminous thousand tons	76	92	100	114	110

[e] Estimate. [r] Revised. NA Not available.
[1] U.S. imports.
[2] Average grade 50 percent.

Table 2.—Democratic Republic of the Congo (Kinshasa): Exports of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1964 [r]	1965
Metals:		
Aluminum, scrap	47	NA
Beryl	198	NA
Cadmium	508	390
Cobalt, granules and cathodes	8,068	8,380
Columbium-tantalum, concentrate	50	62
Copper:[2]		
Scrap	11	NA
Unwrought, blister and cathodes	140,278	[e] 142,000
Semimanufactures, mainly wire bars	136,502	[e] 136,000
Germanium	51	NA
Gold ... troy ounces	294,244	40,285
Iron and steel, scrap	453	NA
Lead, scrap	8	NA
Manganese ore	232,612	311,188
Tin:		
Cassiterite, concentrate ... long tons	6,130	5,062
Unwrought ... do	1,164	1,253
Tungsten concentrate, wolframite	465	208
Zinc:		
Concentrate	93,892	89,650
Scrap	45	NA
Unwrought	56,755	51,931
Metallurgical residues	371	NA
Metals, nonferrous, including alloys, not elsewhere specified	555	NA
Nonmetals:		
Cement	27,967	30,530
Diamond ... thousand carats	14,985	12,583
Gem stones, precious and semiprecious, not elsewhere specified ... thousand carats	4,910	NA
Salt	1	NA
Sulfuric acid	2,952	NA
Mineral fuels: Petroleum refinery products, mainly fuel oils	6	NA

[e] Estimate. [r] Revised. NA Not available.

[1] Data on destinations during 1965 are not available.

[2] Includes alloys.

Table 3.—Democratic Republic of the Congo (Kinshasa): Imports of mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	[r] 1964	1965
Metals:		
Aluminum, all forms	1,055	NA
Copper, all forms	186	224
Iron and steel:		
Iron oxide and hydroxide	181	NA
Scrap	164	NA
Pig iron and ferroalloys	2,953	NA
Ingots and other primary forms	74	NA
Semimanufactures:		
Bars and rods	16,422	16,832
Angles, shapes, and sections	7,134	NA
Plate, sheet, hoop, and strip	29,691	20,240
Wire	918	NA
Rails and accessories	1,882	NA
Tubes, pipes, and fittings	5,754	5,734
Other	441	NA
Total	62,242	NA
Gold ... troy ounces	352,533	NA
Lead:		
Oxide	162	NA
Unwrought and semimanufactures	166	NA
Mercury ... 76-pound flasks	18	NA
Nickel, all forms	33	NA
Platinum ... troy ounces	64	NA

Table 3.—Democratic Republic of the Congo (Kinshasa): Imports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	[r] 1964	1965
Metals—Continued		
Silver:		
Amalgam ____ kilograms__	607	NA
Unwrought and semimanufactures ____ troy ounces__	55,814	NA
Tin, all forms ____ long tons__	43	NA
Titanium oxide, mainly for paint	399	NA
Zinc:		
Oxide	73	NA
Unwrought and semimanufactures	95	NA
Metallic ores, not elsewhere specified	283	NA
Metalliferous residues	193	253
Metallic compounds, not elsewhere specified	22	NA
Precious metals, colloids, amalgams, salts, not elsewhere specified kilograms__	105	NA
Metals, nonferrous, not elsewhere specified	42	NA
Nonmetals:		
Abrasive materials:		
Mineral	24	NA
Grinding stones and wheels	97	NA
Asbestos	3,759	NA
Barite	218	NA
Carbon black	16	NA
Cement	6,480	7,963
Chalk	1,236	NA
Clay and clay products:		
Mineral	541	NA
Brick, tile, etc.	1,861	NA
Construction materials, crushed rock	15	NA
Diatomite	287	NA
Dolomite	121	NA
Feldspar and fluorspar	212	NA
Fertilizer materials:		
Phosphate rock	210	5,551
Manufactured:		
Nitrogenous	1,699	
Phosphatic	966	
Potassic	1,321	
Mixed	3,685	
Ammonia	308	NA
Graphite	2	NA
Gypsum	4,121	NA
Lime and limestone	201	NA
Magnesite	64	NA
Mica, worked ____ kilograms__	8,111	NA
Pigments, mineral	217	NA
Potash, caustic	101	NA
Pyrite, unroasted	53	NA
Quartz and quartzite	129	NA
Refractory materials, brick, tile, etc.	3,534	NA
Salt	55,946	22,723
Sand	11	NA
Soda, caustic	6,346	NA
Stone, dimension, worked	1	NA
Sulfur, all forms:		
Elemental	152	NA
Sulfuric acid	182	NA
Talc and steatite	340	NA
Gem stones, precious and semiprecious, not elsewhere specified thousand carats__	40	NA
Nonmetallic minerals, crude, not elsewhere specified	779	NA
Mineral fuels:		
Coal and briquets	218,527	336,684
Coke and semicoke	40,350	
Coal tar and other products of coal distillation	949	2,844
Petroleum refinery products:		
Gasoline	121,718	[e] 202,000
Kerosine	47,769	[e] 58,000
Distillate fuel oil	114,967	[e] 162,000
Residual fuel oil	36,017	
Lubricants	31,097	[e] 14,000
Liquefied petroleum gas	2,003	NA
Waxes and jelly	520	NA
Asphalt and bitumen	6,050	NA
Total	360,141	NA

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[e] Estimate. [r] Revised. NA Not available.

[1] Data on source countries during 1965 are not available.

Costa Rica

Table 1.—Costa Rica: Approximate production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Gold ᵉ troy ounces	3,000	3,000	3,000	570	570
Manganese ore	----	600	----	----	----
Nonmetals:					
Cement	----	----	33,000	119,000	114,750
Diatomite ᵉ	750	1,900	3,600	3,000	3,000
Lime ᵉ	3,800	5,000	6,500	12,000	12,000
Limestone ᵉ	25,600	30,000	126,200	219,000	229,000
Salt	8,950	5,698	20,000	1,848	1,930
Sand and gravel	NA	NA	ᵉ 50,000	ᵉ 75,000	ᵉ 75,000
Stone, crushed and broken	NA	NA	ᵉ 50,000	ᵉ 172,000	ᵉ 172,000

ᵉ Estimate. NA Not available.

Table 2.—Costa Rica: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel, all forms	1,203	4,199	Nicaragua 2,913; Mexico 863.
Lead, all forms	14	69	Guatemala 48; Nicaragua 21.
Zinc and alloys	17	3	All from Nicaragua.
Nonferrous metals and alloys, all forms, not elsewhere specified	36	17	Guatemala 14.
Nonmetals:			
Cement	604	2,988	Mainly from Nicaragua.
Clay and clay products	120	-----	
Fertilizers, manufactured	82,155	42,467	Guatemala 9,962; Nicaragua 8,682; El Salvador 8,548; Panama 6,382.
Stone:			
Dimension	53	-----	
Industrial	(1)	-----	

[1] Less than ½ unit.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA, October 12, 1966.

Table 3.—Costa Rica: Imports of mineral commodities

(Metric tons uness otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, all forms	681	777	United States 237; Switzerland 142; Japan 140.
Copper and alloys:			
Metal, all forms	172	318	Canada 74; El Salvador 57; United States 49.
Sulfate	27	30	United States 25.
Iron and steel:			
Ingots and equivalent forms	2,654	11.535	Belgium-Luxembourg 5,885; West Germany 4,264.
Semimanufactures	34,911	53,380	Japan 14,081; Belgium-Luxembourg 13,211; West Germany 11,140; United States 5,459.
Scrap	3	1	All from West Germany.
Lead and alloys, all forms	83	131	United States 48; Belgium-Luxembourg 30; West Germany 28.
Nickel and alloys, all forms	3	8	Mainly from United States.
Platinum group metals and alloys, all forms ..... troy ounces	2,990	13,246	Mainly from United Kingdom.
Silver and alloys ..... do	3,440	4,019	Mainly from United States.
Tin and alloys, all forms ..... long tons	23	6	United States 3; United Kingdom 1.
Zinc and alloys, all forms	663	925	West Germany 319; Japan 111; U.S.S.R. 102.
Other:			
Nonferrous ore and concentrates, not further classified	4	6	United States 5.
Nonmetals:			
Abrasives, natural	7	10	United States 8.
Asbestos	151	292	Canada 237.
Cement:			
Asbestos	680	184	United States 120.
Portland	74,713	26,683	Japan 15,444; Colombia 7,818.
Clay and clay products:			
Kaolin	102	212	United States 184.
Refractory and common	681	765	Mainly from United Kingdom.
Nonrefractory brick	46	121	Mainly from Honduras.
Refractory brick	724	579	United States 344; France 134.
Diatomite	1,295	1,102	Mainly from United States.
Feldspar, fluorspar, and cryolite	9	13	All from United States.
Fertilizers:			
Nitrogenous	12,140	83,820	Netherlands Antilles 32,023; Colombia 27,867.
Phosphatic	2,596	71,542	Mainly from United States.
Potassic	4,283	11,319	United States 8,400; West Germany 2,919.
Mixed	23,857	16,325	United States 6,048; Netherlands 5,418; West Germany 3,641.
Graphite	1	2	Mainly from West Germany.
Gypsum:			
Crude	361	3,812	Nicaragua 2,630; Jamaica 1,176.
Calcined	106	160	West Germany 154.
Lime, all types	28	43	Mainly from United States.
Marble	110	161	Mainly from Italy.
Mica	1	3	All from United States.
Pigments, mineral	8	2	Mainly from United States.
Quartz	3	1	Do.
Salt, all forms	276	258	United States 119; Nicaragua 82.
Stone, sand and gravel:			
Dimension	33	200	Mainly from Italy.
Industrial, type not specified	3	3,975	Nicaragua 2,630; Jamaica 1,174.
Sand, gravel, crushed rock	20	14	France 7; United States 6.
Sulfur	41	-----	
Talc	104	139	France 57; Italy 37.
Mineral fuels:			
Coal, all types	46	36	Mainly from United States.
Coal and coke briquets	-----	15	Mainly from West Germany.
Coke	139	80	Do.
Mineral tars and products	86	222	All from Netherlands.
Natural gas liquids	1,850	1,490	Venezuela 1,773.
Petroleum:			
Crude and partially refined	-----	-----	
Refinery products:			
Gasoline	62,978	67,051	Netherlands Antilles 39,429; Venezuela 8,652.
Kerosine	12,338	14,442	Netherlands Antilles 8,356; El Salvador 2,932.

Table 3.—Costa Rica: Imports of mineral commodities—Continued

(Metric tons uness otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral Fuels—Continued			
Petroleum—Continued			
Refinery Products—Continued			
Distillate fuel oil	138,199	173,569	Netherlands Antilles 74,288; Venezuela 66,548.
Lubricants including greases	11,068	10,854	Mainly from United States.
Paraffin, vaseline, and waxes	1,801	201	Do.
Asphalt and coke	7,304	10,367	Mainly from Venezuela.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965 SIECA, October 12, 1966.

Cuba

Table 1.—Cuba: Estimated production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963 [1]	1964 [1]	1965	1966
Metals:					
Chromite, refractory grade	35,000	56,628	32,852	30,000	30,000
Cobalt, in nickel sulfides	164	470	700	[2] 800	800
Copper, in concentrate	5,500	6,523	5,837	6,000	6,000
Iron ore	1,000	1,000	1,000	1,000	NA
Iron and steel:					
Castings:					
Iron	NA	8,656	14,418	NA	NA
Steel	NA	1,232	1,948	NA	NA
Pipe and connections	NA	NA	12,787	NA	NA
Welding rods	NA	NA	573	NA	NA
Manganese ore:					
Chemical grade, 81 percent MnO_2	NA	3,300	NA	NA	NA
Metallurgical grade, 35 to 45 percent Mn	75,000	[3] 37,504	[3] 70,347	75,000	75,000
Total	NA	40,804	NA	NA	NA
Nickel:					
In oxide with cobalt, recoverable	14,716	14,625	14,712	[2] 18,350	18,400
In sulfide, recoverable	1,887	5,161	7,703	[2] 9,000	NA
Total	16,603	19,786	22,415	[2] 27,350	NA
Nonmetals:					
Cement, portland	779,000	811,600	805,600	801,000	800,000
Dolomite	NA	NA	1,964	NA	NA
Gypsum	19,000	26,707	25,273	NA	NA
Kaolin	3,000	5,800	NA	NA	NA
Lime:					
Burned	NA	5,426	4,711	NA	NA
Hydrated	NA	4,672	10,194	NA	NA
Limestone .... thousand tons	2,000	2,100	NA	NA	NA
Marble:					
Block	NA	6,513	9,522	NA	NA
Rough slabs .... square meters	NA	28,450	47,968	NA	NA
Finished slabs .... do	NA	18,846	21,245	NA	NA
Pyrite, 48 percent sulfur	26,000	33,700	30,000	30,000	30,000
Sulfur content	11,700	15,200	13,500	13,500	13,500
Salt	70,000	[r] 90,000	87,000	106,000	100,000
Sand:					
Silica .... cubic meters	NA	397,184	422,561	NA	NA
Other .... do	NA	420,454	389,590	NA	NA
Sodium hydroxide	NA	1,259	1,396	NA	NA
Sodium sulfate	NA	1,602	1,536	NA	NA
Stone .... cubic meters	NA	431,740	425,410	NA	NA
Mineral fuels:					
Asphalt	NA	49,489	49,112	NA	NA
Gas, manufactured .... million cubic feet	NA	2,260	10,455	NA	NA
Petroleum:					
Crude .... thousand 42-gallon barrels	90	228	272	264	264
Refinery products:					
Gasoline .... do	6,170	6,605	6,392	NA	NA
Kerosine .... do	1,280	1,186	1,387	NA	NA
Distillate fuel oil .... do	4,790	3,611	3,447	NA	NA
Residual fuel oil .... do	12,400	14,799	13,007	NA	NA
Lubricants .... do	NA	259	378	NA	NA
Liquefied petroleum gas .... do	NA	534	545	NA	NA
Other .... do	800	NA	NA	NA	NA

[r] Revised. NA Not available.

[1] Junta Central de Planificación (JUCEPLAN), Dirección General de Estadística. Boletin Estadística de Cuba. Havania, 1965.

[2] Based on official data for 6 months.

[3] Reported as sinter.

Cyprus

Table 1.—Cyprus: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	[e] 1965	1966
Metals:					
Chromite	6,538	4,909	3,000	4,990	10,464
Copper [1]	22,900	26,000	13,000	[1] 20,450	17,255
Nonmetals:					
Asbestos	20,313	18,109	12,478	[r] 15,986	22,180
Cement	97,000	96,000	70,000	98,357	98,580
Gypsum:					
Crude	104,406	100,000	45,000	60,975	45,061
Calcined	30,949	52,000	30,000	20,325	20,540
Lime	45,610	59,341	[e] 40,000	[r] 73,550	NA
Mineral pigments:					
Terre verte	10	10	10	10	NA
Umber	6,727	6,000	[e] 6,000	14,532	5,590
Yellow ocher	610	500	[e] 400	304	102
Pyrites (sulfur content) ____thousand tons__	395	449	[r] 329	483	481
Salt	5,651	7,000	NA	5,355	4,013

[e] Estimated. [r] Revised. NA Not available.

[1] Estimated content of concentrates, cement copper, and cupreous pyrite; excluding content in iron pyrites ore which may or may not be recovered.

Table 2.—Cyprus: Exports of mineral commodities

(Metric tons)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Chromite	9,297	2	All to United Kingdom.
Copper:			
Ore and concentrate	62,120	70,767	West Germany 48,156; Spain 18,547; Poland 4,064.
Cement	2,935	4,994	West Germany 3,165; Netherlands 1,829.
Cupreous pyrite	87,510	176,298	Netherlands 112,526; West Germany 63,772.
Nonmetals:			
Asbestos, crude	11,499	17,540	Thailand 6,323; Denmark 5,175; Sweden 1,385.
Gypsum:			
Crude	43,205	41,701	Lebanon 22,095; Taiwan 10,351; Philippines 9,250.
Calcined	1,697	1,441	Lebanon 1,007; Sudan 298.
Mineral pigments:			
Ocher	418	410	United States 205; United Kingdom 76.
Terre verte	10	11	United States 6; United Kingdom 3.
Umber:			
Crude	900	729	United States 353; United Kingdom 261.
Burnt	5,219	5,408	United States 2,533; United Kingdom 2,061.
Pyrite	735,760	712,416	Italy 263,866; Netherlands 150,217; United Kingdom 133,239.
Others	2,001	3,976	Israel 3,235; Libya 659.

Source: Statistics of imports and exports, 1965; Department of Statistics and Research, Ministry of Finance, Nicosia, June, 1966.

Table 3.—Cyprus: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys	252	288	United Kingdom 99; Greece 66; Italy 33.
Copper, including brass	59	26	United Kingdom 17; Greece 4.
Gold troy ounces	7,581	13,036	United Kingdom 12,984; United States 38.
Iron and steel:			
Pig iron	147	60	All from U.S.S.R.
Ferroalloys	2	15	West Germany 14; United Kingdom 1.
Semimanufactures	32,524	43,447	France 11,415; Belgium 8,253; Luxembourg 3,954.
Lead and alloys	82	64	United Kingdom 56; Netherlands 5.
Nickel and alloys	2	-----	
Tin and alloys long tons	392	594	United Kingdom 522; Greece 35.
Zinc and alloys	56	61	Belgium 31; Australia 15.
Nonmetals:			
Asbestos	2,732	4,146	Yugoslavia 1,279; Czechoslovakia 1,235.
Building stone:			
Unworked value, dollars	[r] 25,552	10,966	Italy 7,274; Greece 2,921.
Worked do	[r] 12,221	5,859	All from United Kingdom.
Cement	64,928	57,044	U.S.S.R. 16,799; Lebanon 16,456.
Clays	260	237	Greece 126; United Kingdom 59.
Fertilizer materials, manufactured:			
Nitrogenous	26,838	31,246	Italy 18,629; United Kingdom 8,205.
Phosphatic	31,762	37,329	Lebanon 9,181; Yugoslavia 9,091; Tunisia 7,242.
Potassic	26,277	20,155	Portugal 12,676; Netherlands 3,666; Italy 3,177.
Pumice	933	453	All from Greece.
Salt	231	249	West Germany 210; Israel 29.
Sulfur	1,510	1,863	Greece 1,651; Portugal 166.
Mineral fuels:			
Asphalt and bitumen, natural	10,648	10,770	Egypt 6,022; Spain 3,046.
Coal	407	204	West Germany 168; United Kingdom 36.
Coke	371	453	All from West Germany.
Petroleum refinery products:			
Motor gasoline thousand 42-gallon barrels	477	556	Italy 307; France 176.
Aviation gasoline do	58	56	Netherlands 35; Iran 12.
Kerosine do	209	196	Italy 128; Netherlands 35.
Jet fuel do	163	57	Aden 34; Iran 7.
White, spirits and solvents do	3	3	Netherlands 1; United Kingdom 1.
Gas oil	610	642	Italy 380; France 104.
Fuel oil including diesel do	712	1,114	U.S.S.R. 735; Italy 298.
Liquefied petroleum gas do	64	-----	
Lubricating oil and grease do	21	26	United Kingdom 18; Netherlands 3.
Other, including pitch, wax, and asphalt do	98	320	West Germany 188; Netherlands 113.

[r] Revised.

Source: Statistics of imports and exports for 1964; Department of Statistics and Research, Ministry of Finance, Nicosia, June 1966.

Czechoslovakia

Table 1.—Czechoslovakia: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity[1]	1962	1963	1964	1965	1966
Metals:					
Aluminum ingot including secondary[e]	60,000	60,000	60,000	62,000	62,000
Antimony[e]	2,000	2,000	2,000	2,000	2,000
Copper[e]	NA	NA	NA	5,000	5,000
Iron and steel:					
Iron ore (24–29% FE) thousand tons	3,477	3,411	2,846	[r] 2,572	2,244
Pig iron and blast furnace ferroalloys do.	5,177	5,254	5,716	6,059	6,264
Electric furnace ferroalloys do.	51	52	55	60	
Steel ingots do.	7,639	7,598	8,377	[r] 8,598	9,128
Rolled products except pipe do.	5,066	5,100	5,663	6,094	NA
Pipe do.	763	731	794	896	NA
Lead:					
Mine (content of ore)[e]	13,500	13,500	13,500	14,000	14,000
Smelter[e]	14,000	14,000	14,000	14,500	14,500
Manganese ore, 13–17 percent manganese	83,000	85,000	84,000	[r] 80,000	NA
Mercury[e] 76-pound flasks	725	725	725	730	730
Silver[e] thousand troy ounces	2,400	2,400	2,400	2,400	2,400
Tin, mine (content of ore)[e] long tons	200	200	200	220	148
Nonmetals:					
Cement thousand tons	5,710	5,178	5,493	[r] 5,713	6,096
Fertilizers:					
Nitrogenous (N content)	153,916	153,811	158,000	[r] 219,508	NA
Phosphatic (P_2O_5 content)	180,460	203,191	241,000	[r] 257,924	NA
Gypsum:					
Raw	373,000	302,000	351,000	372,000	[e] 380,000
Calcined	24,000	22,000	[r] 23,000	[r] 23,000	NA
Kaolin	319,000	321,000	313,000	[r] 332,000	[e] 335,000
Lime thousand tons	2,369	2,254	2,347	2,488	NA
Limestone thousand tons	NA	13,994	14,635	14,866	[e] 15,000
Magnesite, crude do.	[r] 400	[r] 430	[r] 479	[r] 502	NA
Pyrite, gross weight do.	401	347	361	[e] 370	[e] 380
Refractories:					
Dinas Bricks do.	NA	58	64	63	NA
Magnesite and Chrome magnesite Bricks do.	NA	157	174	173	NA
Shamot bricks do.	NA	430	479	502	NA
Salt do.	182	187	184	[r] 191	[e] 190
Mineral fuels:					
Coal:					
Bituminous thousand tons	27,149	28,296	28,314	27,731	NA
Brown do.	65,818	[r] 69,326	[r] 71,472	[r] 73,216	73,455
Lignite do.	3,667	[r] 3,977	4,133		
Coal briquets do.	787	778	784	831	[e] 850
Coke:					
From brown coal do.	2,111	2,114	1,929	1,693	[e] 1,700
From bituminous coal do.	8,930	9,299	9,421	[r] 9,496	9,135
Gashouse do.	518	451	306	321	[e] 310
Gas, natural million cubic feet	187,533	206,939	215,859	228,809	NA
Petroleum:					
Crude thousand tons	177	180	195	207	[e] 205
Refinery products:					
Kerosine do.	118	90	110	127	NA
Diesel fuel do.	1,467	1,653	1,779	2,072	NA
Lubricants do.	96	103	93	99	NA
Asphalt from all sources do.	324	344	398	[r] 407	NA

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to the commodities listed, Czechoslovakia is believed to produce arsenic, silver, uranium, barite, feldspar and graphite.

Table 2.—Czechoslovakia: Officially reported exports of selected mineral commodities

(Thousand metric tons)

Commodity	1964	1965	Principal destinations in 1965
Metals:			
Steel:			
Rolled products, except pipe thousand tons	1,756	1,708	Poland 232; Hungary 206; West Germany 97; India 40.
Pipe do	242	267	U.S.S.R. 157; Rumania 10; Poland; 7; Italy 4.
Nonmetals:			
Kaolin do	166	170	Poland 52; West Germany 37; East Germany 14; Hungary 6; Switzerland 6.
Magnesite do	144	193	West Germany 64; Poland 43; Hungary 39; East Germany 18; Rumania 7.
Mineral fuels:			
Coal:			
Bituminous do	2,583	2,378	East Germany 1,009; Hungary 604; Austria 330; Rumania 278.
Brown do	1,410	1,185	West Germany 1,044; Austria 95.
Coke do	1,888	1,835	East Germany 804; Hungary 273; Rumania 151.

Table 3.—Czechoslovakia: Officially reported imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, in 1965
Metals:			
Iron and steel:			
Iron ore thousand tons	9,309	9,553	U.S.S.R. 7,965; India 733; Brazil 356; Sweden 152; Morocco 121.
Pig iron do	118	118	U.S.S.R. 88; East Germany 21.
Manganese ore do	319	334	U.S.S.R. 140; Turkey 138; Brazil 14.
Nonmetals:			
Asbestos	24,517	27,561	U.S.S.R. 10,506; Austria 2,761; Mainland China 517.
Fertilizers:			
Nitrogenous (N content)	50,000	50,000	East Germany 15,000; U.S.S.R. 1,000.
Phosphatic (P_2O_5 content)	260,000	291,000	U.S.S.R. 190,000; Lebanon 23,000; Egypt 11,000.
Potassic (K content)	348,000	359,000	East Germany 355.
Pyrite (S content)	131,000	120,000	Yugoslavia 43,000.
Sulfur (elemental)	189,000	226,000	Poland 129,000; U.S.S.R. 25,000.
Sulfuric Acid	1,000	NA	
Mineral fuels: Coal, bituminous thousand tons	5,044	4,538	U.S.S.R. 2,902; Poland 1,636.

Source: Statisticra Rocenka C.S.S.R. 1966 (Statistical Yearbook of the C.S.S.R. for 1966), Pragu 1966.

Table 4.—Czechoslovakia: Imports of selected mineral commodities from the Soviet Union

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Aluminum:		
Metal	14,800	20,600
Rolled products [1]	3,901	6,613
Cadmium	210	115
Chromite	15,000	33,000
Copper:		
Unwrought	19,100	26,900
Rolled products	771	400
Iron and steel:		
Iron ore thousand tons	7,638	7,966
Pig iron do	50	86
Ferroalloys do	25	21
Steel:		
Rolled products, except pipe	293,200	540,100
Pipe	1,200	2,100
Lead	15,900	14,600
Manganese:		
Ore	130,000	141,000
Peroxide	1,000	1,500
Nickel	1,700	1,400
Zinc	11,900	NA
Nonmetals:		
Apatite:		
Ore	45,000	68,200
Concentrate	370,400	444,300
Asbestos	17,300	10,200
Cement	----	40
Pyrite	35	45
Graphite	101	117
Sulfur:		
Elemental	32,500	25,000
Acid	24,800	5,300
Mineral fuels:		
Coal:		
Anthracite thousand tons	333	321
Bituminous do	2,776	2,435
Coke do	68	7
Petroleum:		
Crude do	4,759	5,964
Refinery products:		
Gasoline do	108	138
Kerosine do	286	237
Diesel fuel do	11	16
Paraffin do	2	----
Others do	21	8
Total	^{r} 378	^{r} 399

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[1] Include alloyed.

Source: Vneshnyaya Torgovlya S.S.S.R. za 1965 god (Foreign Trade of the U.S.S.R. for 1965) Moscow, 1966 294 pp.

Dahomey

Table 1.—Dahomey: Exports of selected mineral commodities

(Metric tons)

Commodity	1964	1965[1]	Principal destinations, 1965
Metals: Iron and steel, semimanufactures	176	294	Nigeria 138; Togo 84; Niger 16.
Nonmetals:			
Abrasives, natural	---	---	
Cement, lime, and other building materials.	24	27	All to Togo.
Clay construction materials	3	10	Do.
Stone, sand, and gravel	---	---	
Nonmetallic minerals, crude, unspecified.	16	15	Niger 12.
Nonmetallic mineral manufactures	56	16	All to Nigeria.
Mineral fuels:			
Gas, natural and manufactured	15	13	All to Togo.
Petroleum refinery products	[2] 366	246	Iraq 210; Togo 51.

[1] Source: Statistical Office of the European Communities, No. 1, 1967, pp. 29–46.

[2] Includes residual fuel oil 291; lubricants 7.

Table 2.—Dahomey: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]	Principal sources, 1965
Metals:[2]			
Aluminum	51	79	France 69; Ivory Coast 9.
Copper	46	65	All from France.
Iron and steel:			
Pig iron and ferroalloys	3	49	France 48.
Scrap	---	---	
Steel ingots and equivalent forms	261	7	All from France.
Semimanufactures:			
Bars, rods, and sections	4,522	3,128	France 2,746; Belgium-Luxembourg 331; West Germany 52.
Plate, sheet, and strip	3,003	3,532	Belgium-Luxembourg 2,089; France 1,420.
Other	1,022	1,201	France 949; West Germany 121; Belgium-Luxembourg 59; Nigeria 54.
Total	8,547	7,861	
Lead	26	20	Belgium-Luxembourg 14; France 5.
Tin long tons	3	2	All from France.
Zinc	4	3	Do.
Nonmetals:			
Abrasives, natural	15	11	France 10.
Cement, lime, and other building materials.	56,536	59,720	Poland 13,467; Norway 11,863; U.S.S.R. 10,043.
Clay construction materials	364	688	France 364; West Germany 265; Italy 57.
Fertilizers, manufactured	1,110	1,932	France 1,867; Tunisia 65.
Stone, sand, and gravel	394	409	Nigeria 397; France 11.
Sulfur and pyrite	15	11	All from France.
Nonmetallic minerals, crude unspecified.	10,411	9,740	Senegal 7,066; Italy 893; United Kingdom 654.
Nonmetallic mineral manufactures	17	22	France 20; United Kingdom 1.
Mineral fuels:			
Coal, coke, and briquets	52	---	
Gas, natural and manufactured	253	271	France 105; Spain 80; Spanish North Africa 46.
Petroleum refinery products	48,873	51,251	Iraq 14,562; Algeria 10,818; Venezuela 9,909; India 8,296; Italy 3,162.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	45	47	United Kingdom 26; France 13.

[1] Source: Statistical Office of the European Communities, No. 1, 1967, pp. 29–46.

[2] Includes unwrought and semimanufactures unless otherwise specified.

Denmark

Table 1.—Denmark: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	[e] 1966
Metals:					
Iron and steel:					
Iron ore (less than 42 percent iron) [1]	95,000	85,000	[e] 90,000	[e] 65,000	55,000
Pig iron	68,576	69,368	[r] 72,461	[r] 74,908	82,000
Iron castings, including malleable iron	143,252	132,661	134,547	146,119	145,000
Steel, ingots and castings	[r] 367,000	[r] 359,000	[r] 396,000	412,000	405,000
Rolled products:					
Heavy and medium plates	148,400	147,900	174,300	184,300	185,000
Light and heavy sections	111,700	119,500	137,200	140,500	152,900
Welded tubes [2]	28,165	28,923	35,443	35,199	NA
Nonferrous metals, including alloys:					
Ingots and bars	30,422	30,350	24,125	32,676	35,000
Semimanufactures	39,205	[r] 36,301	43,861	47,241	50,000
Alloy castings	[r] 10,374	[r] 8,593	11,221	11,752	12,600
Nonmetals:					
Asbestos-cement products	212,000	152,000	[r] 218,000	221,000	225,000
Cement:					
Portland ... thousand tons	1,424	1,287	1,898	[r] 2,009	2,028
Other ... do	208	234			
Chalk:					
Crude, for sale	11,433	14,396	[e] 14,000	NA	NA
Washed or precipitated	33,205	32,121	[e] 35,000	[e] 35,000	32,000
Diatomaceous materials:					
Diatomite	20,000	20,000	18,500	12,500	12,500
Moler	209,400	192,000	191,200	212,700	203,200
Fertilizer:					
Superphosphate, 16 to 18 percent phosphorus pentoxide	NA	17,309	43,205	43,496	50,000
Potash superphosphate	778,278	737,512	715,391	755,570	714,000
Manganese sulfate [3]	809	1,333	1,369	943	1,500
Flint:					
Pebble grade	[r] 4,543	2,545	[e] 5,000	[e] 3,500	3,500
Other	165,000	165,000	NA	NA	NA
Kaolin:					
Crude, for refractory products	7,395	12,062	8,000	[r] 6,847	15,000
Washed (including pressed)	3,306	6,600	NA	2,500	3,000
Lime:					
Quicklime	146,753	151,824	159,284	162,667	150,000
Agricultural	NA	310,000	370,000	410,000	275,000
Salt	---	---	---	---	25,000
Stone, sand and gravel:					
Granite:					
Total quarry production	549,557	630,153	914,437	699,692	NA
Dimension stone, rough and finished	36,821	33,639	38,235	34,113	NA
Other worked stone ... value, thousand dollars	$210	$203	$435	$386	NA
Limestone and marl ... thousand tons	3,332	3,150	NA	NA	3,500
Gravel ... thousand cubic meters	3,500	3,500	3,600	4,200	[4] 5,300
Mineral fuels:					
Coke ... thousand tons	418	411	350	263	[5] 292
Lignite ... do	2,556	2,512	2,195	2,128	1,800
Lignite briquets ... do	55	61	[r] 66	[r] 47	50
Peat, for fuel ... do	61	50	36	15	9
Petroleum refinery products:					
Gasoline ... thousand 42-gallon barrels	2,059	3,531	4,993	5,719	6,529
Kerosine ... do	131	359	430	646	916
Distillate fuel oil ... do	1,966	3,157	5,405	6,899	8,501
Residual fuel oil ... do	4,449	6,486	9,678	11,380	14,876
Liquefied petroleum gases ... do	315	NA	951	1,083	1,280
Lubricants, including greases ... do	19	15	7	NA	NA
Bitumen ... do	157	NA	157	160	280
Other ... do	987	1,322	1,379	2,159	2,805
Total ... do	10,083	14,870	23,000	28,046	35,187
Refinery fuel and loss ... do	NA	465	718	489	664

[e] Estimate. [r] Revised. NA Not available.

[1] Quantities of merchantable iron ore, as given by United Nations and Organization for Economic Cooperation and Development (OECD) publications, are 20,000 to 29,000 tons less than the figures shown for 1964.

[2] Made from imported strip.

[3] Manganese obtained from domestic bog iron ore.

[4] Including sand.

[5] Data is for fiscal year (April–March) 1965/66.

Table 2.—Denmark: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Oxide and hydroxide [1]	98	114	United Kingdom 86.
Unwrought, including scrap [2]	2,245	3,517	Sweden 1,926; United States 983.
Semimanufactures [2]	695	909	West Germany 210; United Kingdom 86; Finland 82; Austria 77; Iceland 76.
Antimony	15	NA	NA.
Copper: [2]			
Ashes and residues	1,957	NA	NA.
Scrap	r 3,119	4,530	West Germany 1,842; Belgium-Luxembourg 1,731.
Unwrought	708	475	Sweden 295; West Germany 108.
Semimanufactures	1,586	1,768	Portugal 524; Belgium-Luxembourg 436; Sweden 217.
Iron and steel:			
Iron ore	57,774	36,100	West Germany 15,056; United Kingdom 12,376.
Roasted pyrite	103,636	95,003	West Germany 81,774; United Kingdom 13,230.
Slag, dross, scale, etc.	646	1,319	NA.
Scrap, pig iron, and ferroalloys [3]	49,726	42,780	Norway 18,090; West Germany 16,648; Sweden 7,344.
Ingots and other primary forms	3,382	3,135	Norway 3,120.
Semimanufactures:			
Bars, rods, sections	29,703	28,546	West Germany 13,388; Sweden 8,571.
Plates and sheets	105,467	102,265	Sweden 40,251; Norway 34,306; West Germany 24,305.
Tubular products	8,661	9,004	Sweden 4,437; Poland 1,451.
Castings and forgings	5,465	4,726	Sweden 1,496; West Germany 1,144; Thailand 321.
Other	936	637	West Germany 237; Sweden 75.
Total semimanufactures	150,232	145,178	
Lead: [2]			
Ore	300	NA	NA.
Oxides	15	NA	NA.
Unwrought, including scrap	4,888	4,716	Norway 1,783; Sweden 795.
Semimanufactures	308	276	Norway 202.
Magnesium, including scrap	55	78	Mostly to United States.
Nickel, scrap and semimanufactures [2]	206	179	United Kingdom 72; Belgium-Luxembourg 48.
Radioactive materials value, thousand dollars	$10	NA	NA.
Silver and platinum group metals:			
Silver, including semimanufactures troy ounces [4]	r 49,113	64,842	Netherlands 39,483.
Waste and scrap kilograms	32,400	36,220	United Kingdom 15,000; West Germany 13,000.
Other ashes and residues containing precious metals kilograms	---	NA	NA.
Tin:			
Unwrought [2], including scrap long tons	r 794	662	Norway 162; Hungary 131.
Semimanufactures do	31	38	Sweden 32.
Titanium dioxide	250	58	Norway 39.
Zinc:			
Ashes and residues	2,299	NA	NA.
Oxide	16	33	NA.
Scrap, including dust (blue powder).	2,234	1,807	West Germany 648; Belgium-Luxembourg 449.
Unwrought and semimanufactures [2].	1,269	681	West Germany 139; Sweden 132.
Other:			
Metalliferrous ores, ashes and residues, not elsewhere specified.	1,355	406	NA.
Base metals, including semimanufactures, not elsewhere specified.	30	14	NA.
Nonmetals:			
Asbestos:			
Crude fiber and manufactures (nonfriction).	104	162	Norway 76.
Asbestos and fiber-cement articles	7,215	7,567	Norway 5,093.
Cement	r 150,702	94,648	Sweden 15,537; Israel 12,344; Lebanon 5,405; Iraq 5,045.
Chalk	r 31,053	23,936	West Germany 9,977.

See footnotes at end of table.

Table 2.—Denmark: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Clay:			
Kaolin	74	48	Finland 4,127.
Refractory and other	2,446	5,548	
Construction materials (brick, tile etc.):			
Refractory [5]	42,282	51,751	West Germany 13,884; United Kingdom 10,611; Norway 5,020.
Nonrefractory	194,444	150,548	West Germany 82,915; Sweden 35,132.
Cryolite and chiolite, natural	24,373	26,145	NA.
Diamond and other precious and semiprecious stones:			
Industrial diamond value, thousand dollars	(6)	NA	NA.
Other diamond unset value, thousand dollars	$204	NA	NA.
Other kilograms	18	NA	NA.
Dust and powder, including synthetic stones kilograms	7	NA	NA.
Diatomite and other siliceous earths	91,100	112,888	West Germany 66,421; United Kingdom 33,931.
Fertilizer (manufactured), all types	282	6,343	Brazil 3,700; West Germany 2,509.
Flint	35,039	42,390	
Lime	21,880	20,226	Sweden 10,099; Norway 8,921.
Limestone (for cement, flux, etc.)	58,658	65,895	Sweden 39,888; West Germany 15,290.
Quartz and quartzite	150	858	NA.
Salt	249	347	Iceland 281.
Stone, sand, and gravel:			
Dimension stone:			
Unworked, all types	83,084	109,624	West Germany 109,558.
Worked, all types	3,545	1,988	Norway 835; Sweden 657.
Gravel and crushed stone thousand tons	1,969	1,899	West Germany, 1,858.
Sand:			
Foundry and glass sand	25,727	166,097	Sweden 89,507; West Germany 62,605.
Other	95,963		
Mineral substances, not elsewhere specified.	2,438	2,503	West Germany 2,061.
Slag and ash, not elsewhere specified	78,486	98,132	West Germany 97,795.
Mineral fuels:			
Asphalt, natural, including manufactures.	2,679	1,013	Finland 575.
Coal derivatives	17,953	2,887	Netherlands 2,718.
Coke	44,531	51,046	Sweden 21,438; Norway 17,793.
Lignite, including briquets	44,266	9,800	West Germany 9,746.
Peat, including briquets and litter	6,064	5,221	West Germany 5,065.
Petroleum refinery products:			
Gasoline	[r] 176,837	264,137	Sweden 201,772; United Kingdom 52,898.
Kerosine, including white spirit	[r] 7,436	4,660	Norway 2,301; Sweden 2,299.
Distillate fuel oil	111,438	213,624	Sweden 202,575.
Residual fuel oil	313,698	196,169	Sweden 156,746; West Germany 8,507.
Lubricants, including grease	[r] 6,446	12,822	Norway 8,446; Sweden 3,093.
Liquefied petroleum gases	2,714	2,972	Sweden 1,385; Norway 822; West Germany 360.
Bitumen and other	4,068	2,050	Sweden 816; Norway 309; West Germany 149.
International bunkers:			
Distillate fuel oil	186,000	168,000	
Residual fuel oil	352,000	333,000	

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[r] Revised. NA Not available.

[1] Including synthetic corundum.

[2] Including alloys.

[3] Including spiegeleisen and grit, sponge, or powder of iron or steel.

[4] Estimated from quantities reported in units of 100 kilograms.

[5] Including those of magnesite, diatomite, and other refractory materials.

[6] Less than ½ unit.

Table 3.—Denmark: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite, oxide and hydroxide [1]	352	3,246	British Guiana 2,814; United States 206.
Scrap [2]	936	1,273	East Germany 546; Sweden 489.
Unwrought [2]	7,236	9,310	Norway 5,380; East Germany 1,463.
Semimanufactures [2]	14,971	14,209	West Germany 2,175; France 1,950; Sweden 1,805.
Antimony, all forms	108	103	Mainland China 80.
Arsenic, including oxides	30	NA	NA.
Beryllium kilograms	100	1,000	NA.
Cadmium, all forms	21	NA	NA.
Chromium:			
Metal kilograms	1,400	NA	NA.
Oxide and hydroxide	294	289	West Germany 183; United Kingdom 21.
Cobalt:			
Metal	26	NA	NA.
Oxide and hydroxide	3	22	United States 18.
Columbium value, thousand dollars	$2	NA	NA.
Copper: [2]			
Unwrought, including scrap	[r] 4,629	4,079	Belgium-Luxembourg 1,995; West Germany 920.
Semimanufactures	[r] 24,092	29,530	Sweden 10,719; Belgium-Luxembourg 5,032; West Germany 4,575; Canada 2,152.
Cuprous oxide	190	200	West Germany 140; Norway 41.
Iron and steel:			
Iron ore	1,072	2,975	Sweden 1,238.
Roasted pyrite and pyrrhotite	2,025	5,103	Norway 3,903.
Slag, dross, scale, etc.	15,275	21,174	United Kingdom 21,169.
Scrap	2,248	275	NA.
Pig iron and cast iron [3]	120,072	109,882	East Germany 38,115; Finland 23,610; U.S.S.R. 18,649; West Germany 13,102; Sweden 7,991.
Ferroalloys	7,150	6,692	Norway 5,248; U.S.S.R. 658.
Ingots and other primary forms	[r] 36,945	66,869	Norway 36,134; West Germany 19,313.
Semimanufactures:			
Bars, rods, sections [4]	353,809	385,343	ECSC 281,689; Sweden 31,495; Czechoslovakia 21,348.
Plates and sheets	438,603	477,994	ECSC 337,900; United Kingdom 80,091.
Hoop and strip	67,226	73,589	ECSC 64,851; United Kingdom 3,334.
Rails and accessories	22,134	22,679	ECSC 14,299; Sweden 7,206.
Wire	20,634	14,799	ECSC 16,291; United Kingdom 4,775.
Tubular products	143,211	139,971	ECSC 79,679; United Kingdom 15,672; Sweden 8,568.
Castings	---	74	West Germany 39.
Total semimanufactures	1,045,617	1,122,572	West Germany 399,463; Belgium-Luxembourg 228,587; France 130,067; United Kingdom 120,089.
Iron oxide and hydroxide	3,068	3,441	West Germany 2,959; Spain 314.
Lead:			
Oxides	1,364	1,255	West Germany 472; Sweden 146; United Kingdom 144.
Scrap	[r] 4,638	5,498	Norway 2,251.
Unwrought [2]	15,260	14,500	Sweden 5,136; U.S.S.R. 2,292; Republic of South Africa 2,235.
Semimanufactures [2]	807	731	Belgium-Luxembourg 219; West Germany 171.
Magnesium, all forms	124	152	Norway 97.
Manganese:			
Ore	8,586	6,360	India 2,923; mainland China 1,952.
Oxides	531	1,123	Japan 647; Netherlands 295.
Mercury 76-pound flasks	1,015	609	Italy 378.
Molybdenum, all forms kilograms	1,900	3,000	Austria 1,000; Netherlands 1,000; United States 1,000.
Nickel:			
Ore and matte	72	17	United Kingdom 12.
Unwrought, including scrap [2]	33	126	United Kingdom 97.
Semimanufactures [2]	583	695	United Kingdom 288; Sweden 158.

See footnotes at end of table.

Table 3.—Denmark: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Silver and platinum group metals:			
Silver:			
Unwrought thousand troy ounces [5]	675	812	NA.
Semimanufactures do	3,475	3,645	NA.
Platinum and platinum group metals troy ounces [6]	[r] 2,380	6,398	NA.
Waste and scrap kilograms	2,700	2,700	NA.
Other ashes and residues containing precious metals kilograms	1,200	NA	NA.
Tantalum, all forms value, thousand dollars	$7	$5	NA.
Tin:			
Scrap long tons	155	70	Norway 40; Belgium-Luxembourg 18.
Unwrought [2] do	1,166	963	Mainland China 488; West Germany 186; United Kingdom 117.
Semimanufactures [2] do	113	98	United Kingdom 51; West Germany 34.
Titanium dioxide	5,448	5,793	West Germany 1,618.
Tungsten kilograms	3,100	4,000	Sweden 3,000.
Uranium and other radioactive materials:			
Uranium value, thousand dollars	$1	NA	NA.
Other, including stable isotopes kilograms	10,030	NA	NA.
Zinc:			
Oxides	1,491	1,392	West Germany 500; Poland 277; mainland China 171.
Dust (blue powder) and scrap	383	385	Norway 163; Sweden 76; United Kingdom 72.
Unwrought [2]	11,649	11,704	Norway 4,413; Belgium-Luxembourg 2,758; Netherlands 1,823.
Semimanufactures [2]	[r] 6,254	6,558	Poland 2,027; Belgium-Luxembourg 1,947.
Other:			
Metalliferous ores, ashes, residues, not elsewhere specified.	113	NA	NA.
Base metals, including semimanufactures, not elsewhere specified.	21	NA	NA.
Pyrophoric alloys	5	5	NA.
Nonmetals:			
Asbestos:			
Crude	19,433	26,589	Canada 11,744; Republic of South Africa 6,210; Cyprus 5,064.
Manufactures (excluding friction materials).	1,553	NA	NA.
Asbestos and fiber-cement articles.	7,456	13,153	Norway 4,858; Czechoslovakia 1,716; West Germany 1,491.
Barite	665	622	West Germany 566.
Borates, natural	940	1,375	United States 1,105.
Boric acid	137	132	France 65; United States 50.
Cement	57,087	38,963	Finland 25,446; West Germany 12,572.
Chalk	937	1,217	France 618; United Kingdom 319.
Clay:			
Kaolin	35,346	31,293	NA.
Other refractory	25,778	29,842	NA.
Bleaching	715	455	NA.
Other	8,858	8,523	NA.
Construction materials (brick, tile, etc):			
Refractory	24,127	25,050	West Germany 7,288; Sweden 6,088.
Nonrefractory	25,613	35,439	West Germany 15,518; Sweden 7,787; East Germany 3,392.
Corundum (artificial)	446	446	West Germany 438.
Diamond and other precious, semiprecious stones:			
Industrial diamond:			
Natural value, thousand dollars	$3	NA	NA.
Synthetic do	$17	NA	NA.
Other diamond, unset do	$1,022	NA	NA.
Other stones, natural kilograms	514	NA	NA.
Dust and powder, including synthetic stone do	277	NA	NA.
Diatomite and other siliceous earths	1,760	1,776	United States 1,379.
Dolomite, including calcined	18,109	15,620	Norway 5,128; Belgium-Luxembourg 4,870; West Germany 3,450.
Earth pigments	855	366	Cyprus 161.

See footnotes at end of table.

Table 3.—Denmark: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Emery and other natural abrasives	4,336	3,265	West Germany 1,652; Italy 817.
Feldspar	4,259	^{e} 5,499	NA.
Fertilizer materials:			
Crude:			
Phosphate rock	283,888	342,697	Morocco 268,370; Tunisia 30,150.
Potash salts	580	745	All from West Germany.
Sodium nitrate	37,153	32,400	All from Chile.
Manufactured:			
Nitrogenous	659,328	600,479	Norway 513,347; West Germany 67,931.
Phosphatic, including Thomas slag.	98,373	90,178	Netherlands 36,983; Norway 18,333; France 8,532.
Potassic	286,245	281,403	West Germany 178,661; East Germany 77,291; France 18,540.
Flint	173	47	NA.
Fluorspar	480	^{e} 500	NA.
Graphite	411	367	West Germany 163; Norway 146.
Gypsum and anhydrite, including calcined.	^{r} 85,902	100,633	Poland 89,932; West Germany 9,930.
Lime	1,343	89	NA.
Limestone (for cement, flux, etc.)	42,864	44,230	Sweden 42,909.
Magnesite, including calcined	3,816	4,715	Austria 3,902.
Mica:			
Scrap, ground, and other crude	191	268	Rhodesia 96; Norway 90.
Manufactures	58	73	West Germany 36; United Kingdom 17; France 13.
Pyrite	134,662	142,719	Spain 95,689; Norway 47,010.
Quartz and quartzite	24,600	41,010	Sweden 38,010; Norway 2,438.
Salt	165,778	193,042	West Germany 117,093; United Kingdom 31,247; Netherlands 28,556.
Silicon	472	NA	NA.
Stone, sand, and gravel:			
Dimension stone:			
Granite, gneiss etc., unworked.	24,235	40,968	Sweden 39,315.
Marble and other calcareous, unworked.	8,985	11,622	Sweden 7,881; Italy 1,692.
Slate, unworked	7,040	7,053	Norway 2,598; West Germany 2,057; Sweden 1,677.
Worked, all types	7,737	8,740	Portugal 4,000; Sweden 3,484.
Gravel and crushed stone	132,419	173,415	Sweden 153,827; Norway 10,873.
Sand:			
Foundry and glass sand	55,396	76,223	Belgium-Luxembourg 54,059; Sweden 14,687.
Other	10,285		
Sulfur:			
Elemental, all forms	10,903	13,784	United States 10,212; West Germany 2,093.
Dioxide and sulfuric acid	2,707	2,423	West Germany 1,595.
Talc and steatite	13,174	13,282	Norway 11,325.
Mineral substances, not elsewhere specified.	4,946	13,603	West Germany 8,420; Sweden 1,345.
Slag and ash, not elsewhere specified	2,226	NA	NA.
Mineral fuels:			
Asphalt and bitumen:			
Natural, crude	2,513	1,493	United States 611; Trinidad 601.
Manufactures	1,702	1,425	West Germany 715; Sweden 522.
Carbon black	1,870	1,894	United Kingdom 967; United States 408.
Coal, including briquets thousand tons	^{r} 3,781	3,440	Poland 2,424; U.S.S.R. 551; West Germany 16.
Coal tar and other derivatives	19,530	18,179	United Kingdom 6,412; West Germany 4,816.
Coke thousand tons	1,167	888	West Germany 416; U.S.S.R. 279.
Lignite, including briquets	160,085	150,682	East Germany 150,131.
Peat, including briquets and litter	11,329	7,559	Sweden 5,506; West Germany 2,034.
Petroleum:			
Crude and partly refined thousand tons	3,040	3,396	Kuwait 1,069; Saudi Arabia 837; Libya 700; Iran 526.
Refinery products:			
Gasoline thousand tons	1,059	1,130	Netherlands 251; United Kingdom 239; West Germany 204.
Kerosine, including white spirit thousand tons	392	413	United Kingdom 128; Netherlands 86.
Distillate fuel oil thousand tons	2,492	2,779	United Kingdom 826; Netherlands 533; Bahrain 337.

See footnotes at end of table.

Table 3.—Denmark: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Petroleum—Continued			
Refinery products—Continued			
Residual fuel oil thousand tons..	2,696	2,769	United Kingdom 876; Netherlands 597; U.S.S.R. 377.
Lubricants, including grease..thousand tons..	85	83	United States 35; United Kingdom 23; Netherlands 6.
Liquefied petroleum gases thousand tons..	81	86	West Germany 63; Netherlands 11.
Bitumen and other thousand tons..	179	204	West Germany 93; Netherlands Antilles 65.
Total..........do....	6,984	7,464	

[r] Revised. [e] Estimate. NA Not available.

[1] Not including synthetic corundum.

[2] Including alloys.

[3] Including spiegeleisen, grit, sponge, and powder of iron or steel.

[4] Including wire rod.

[5] Estimated from quantities reported in units of 100 kilograms.

[6] Calculated from quantities reported in kilograms.

Dominican Republic

Table 1.—Dominican Republic: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals: Bauxite dry equivalent: Shipments	717,111	773,088	760,290	941,756	833,008
Nonmetals:					
Amber ---- kilograms	[1] 61	[1] 261	[1] 320	[e] 300	NA
Cement	242,746	229,135	297,515	211,974	276,398
Clays	[2] 12,603	[e] 12,000	[e] 12,000	NA	NA
Fertilizers, chemical	51,081	[e] 50,000	[e] 50,000	NA	NA
Gravel and crushed rock ---- cubic meters	[2] 52,464	[e] 50,000	[e] 50,000	NA	NA
Gypsum	439,406	35,318	109,694	89,499	90,883
Lime	7,433	8,526	NA	NA	NA
Limestone	311,831	[e] 310,000	398,470	[3] 271,667	[3] 359,317
Salt:					
Marine ---- thousand tons	10	10	[r] 29	[r] 26	[e] 25
Mined ---- do	32	23	2	[r] 21	[e] 20
Total ---- do	42	33	[r] 31	[r] 47	[e] 45
Sand	83,907	NA	NA	[2] 46,674	NA
Stone, dimension and crushed:					
Granite	244	NA	NA	NA	NA
Marble ---- cubic meters	124	NA	(4)	NA	NA
Travertine ---- do					

[e] Estimate. [r] Revised.

[1] Exports.

[2] Domestic consumption of national production.

[3] For cement only.

[4] Production of quarried slabs reported as 3,757 square meters of marble, and 3,757 square meters of travertine.

Table 2.—Dominican Republic: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum ore: Bauxite	923,615	1,139,375	All to United States.
Iron ore	5,656	---	
Iron and steel scrap	833	645	United States 476.
Nonmetals:			
Cement	13,720	4,824	Guadeloupe 1,996; Virgin Islands 1,360.
Clay products:			
Brick	63	148	Mainly to Puerto Rico.
Roofing tile	32	15	All to Puerto Rico.
Pottery	7	---	
Gypsum	96,453	54,225	Mainly to Puerto Rico.
Salt	21,182	100	All to Panama.
Sand	---	11	All to Puerto Rico.
Stone, dimension:			
Granite	(1)	30	Do.
Marble	2	5	Mainly to Puerto Rico.

[1] Less than ½ unit.

Source: República Dominicana, Oficina Nacional de Estadística, Comercio Exterior, 1965, Vol. XIII, 1967, 294 pp.

Table 3.—Dominican Republic: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Copper and its alloys, and manufactures.	968	464	United States 148; Canada 118; France 68.
Gold, silver, platinum and their manufactures……kilograms	2,200	257	United States 193; West Germany 37.
Iron and steel products:			
Construction materials:			
Large pieces	5,166	3,507	Belgium 2,042; United States 1,022.
Galvanized sheet	18,395	1,008	Belgium 429; Japan 270.
Other	17,667	7,693	Belgium 5,814; United States 983.
Total	41,228	12,208	
Rails and railway material	620	319	United States 290.
Pipes and fittings	6,007	1,154	United States 339; West Germany 330.
Wire, smooth	4,671	2,769	Belgium 1,084; West Germany 928.
Tin, lead, zinc, and other metals and metal manufactures.	1,280	601	United States 178; Canada 167; Puerto Rico 124.
Nonmetals:			
Cement	3,653	1,350	Japan 424; United Kingdom 399; West Germany 296.
Ceramics: China, porcelain, pottery	3,085	1,989	Japan 884; United States 812.
Stone, earth and their manufactures	1,675	1,351	United States 1,026; Canada 195.
Mineral fuels:			
Coal, coke, and briquets	728	154	United States 52; Netherlands 48.
Petroleum products:			
Gasoline thousand 42-gallon barrels	1,322	619	Netherlands Antilles 554.
Kerosine……do	204	82	Netherlands Antilles 77.
Fuel oil……do	2,284	1,951	Netherlands Antilles 858; Venezuela 760.
Lubricating oil	9,435	9,453	United States 5,613; Netherlands Antilles 2,663.
Other	38,634	15,177	Venezuela 11,302.

Source: República Dominicana, Oficina Nacional de Estadística, Comercio Exterior—1965, Vol. XIII 1967, 294 pp.

Ecuador

Table 1.—Ecuador: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Cadmium, in zinc concentrate .... kilograms ..	931	2,008	2,141	1,239	556
Copper, in concentrate	176	285	171	129	223
Gold, in concentrate .... troy ounces ..	20,591	21,041	[r] 17,681	11,512	10,901
Lead, in concentrate	124	162	[r] 166	114	69
Silver, in concentrate .... troy ounces ..	127,739	121,784	117,126	69,966	76,710
Zinc, in concentrate	164	358	380	236	135
Nonmetals:					
Cement	214,220	258,394	287,806	325,000	438,000
Clay, kaolin	377	379	208	218	891
Gypsum	32	NA	NA	NA	NA
Ocher	2	1	NA	NA	NA
Salt	[r] 32,000	[e] 35,000	[e] 35,000	[e] 35,000	[e] 35,000
Sulfur	NA	166	NA	232	125
Mineral fuels:					
Lignite	99	65	35	33	68
Petroleum: Crude thousand 42-gallon barrels ..	2,573	2,465	2,796	2,850	2,660
Gasoline, natural	110	109	119	128	110
Refinery products:					
Gasoline .... do	1,467	1,811	[r] 2,037	2,157	2,160
Kerosine and jet fuel .... do	321	437	478	627	762
Distillate fuel oil .... do	698	813	859	963	1,044
Residual fuel oil .... do	1,218	1,167	1,296	1,480	1,501
Other .... do	206	76	[r] 169	252	285
Total .... do	3,910	4,304	4,839	5,479	5,752

[e] Estimate. [r] Revised. NA Not available.

Source: U.S. Embassy, Quito.

Table 2.—Ecuador: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal destinations, 1964
Metals:			
Copper: Scrap	---	5	All to Netherlands.
Gold telluride—calaverite	5	5	All to United States.
Iron and steel scrap	283	52	United States 42; Colombia 10.
Lead concentrate	760	2	Mainly to West Germany.
Zinc concentrate	967	864	France 591; Belgium 273.
Mineral fuels: Petroleum, crude thousand 42-gallon barrels ..	185	531	All to Argentina.

Source: República del Ecuador. Anuario de Comercio Exterior, 1964.

Table 3.—Ecuador: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1964	Principal sources, 1964
Metals:			
Aluminum, unwrought and semimanufactures.	512	527	Austria 247; United States 99; West Germany 57.
Copper, unwrought and semimanufactures.	364	553	Chile 272; Mexico 96; United States 63.
Gold, unwrought and powder troy ounces	225	386	West Germany 321; United States 65.
Iron and steel:			
Pig iron	20	95	All from West Germany.
Ferroalloys	2	103	West Germany 52; Switzerland 49.
Ingot, block	---	15	All from Norway.
Semimanufactures:			
Bars, beams, sections	23,657	22,568	Belgium 15,718; West Germany 4,808.
Sheets and plates:			
Corrugated	3,539	4,054	Belgium 3,396.
Plain	3,819	4,385	Belgium 2,138; West Germany 1,138.
Galvanized and enameled	1,506	2,335	Belgium 1,047; France 814.
Tinplate	2,262	2,856	United States 1,972; Canada 556.
Hoops or straps	233	237	Belgium 159; West Germany 41.
Wire	6,921	8,554	Belgium 2,411; France 1,868; West Germany 1,856.
Pipes and fittings	4,600	5,130	France 1,540; United Kingdom 1,100; Belgium 833.
Rails	376	323	West Germany 292; Belgium 32.
Other	370	394	United States 167; United Kingdom 101.
Lead, unwrought and semimanufactures.	259	260	United Kingdom 60; Mexico 50; West Germany 45.
Mercury 76-pound flasks	4	11	West Germany 3; Peru 2; United Kingdom 2.
Nickel	1	1	Mainly from United States and Canada.
Silver troy ounces	65,620	514	Italy 321; United Kingdom 193.
Tin, unwrought and semimanufactures long tons	25	26	United Kingdom 18; United States 5.
Zinc, unwrought and semimanufactures	33	53	West Germany 18; United States 13.
Other	---	3	Mainly from United States.
Nonmetals:			
Abrasives, natural	10	18	West Germany 15.
Asbestos, crude, washed or ground	325	787	Canada 651; Republic of South Africa 133.
Cement:			
Aluminous	40	66	Mainly from United States.
White	1,541	1,868	West Germany 953; Denmark 854.
Other	27	24	Denmark 13; United States 9.
Clays:			
Bentonite	127	358	United States 337.
Kaolin	56	5	United States 2; West Germany 1.
Other	42	77	United States 42; United Kingdom 28.
Diatomaceous earth	284	242	West Germany 107; United States 85.
Graphite	1	2	United Kingdom 1.
Gypsum	51	39	United States 28.
Magnesite, crude or calcined	6	11	West Germany 10.
Marble	143	138	Italy 102.
Mica, all forms	12	15	United States 14.
Salt	287	263	United States 237.
Sand	57	1,377	United States 1,363.
Sulfur	88	136	United States 129.
Talc	167	171	United States 89; Canada 47.
Other nonmetallic minerals	32	123	United States 59; Mexico 45.
Mineral fuels:			
Coal	168	175	Netherlands 65; United States 51.
Coke	338	278	Belgium 130; United States 79.
Other solid hydrocarbons:			
Tar and pitch	119	132	United Kingdom 124.
Natural asphalt	8,782	2,053	Netherlands Antilles 1,769; United States 284.
Petroleum:			
Crude thousand 42-gallon barrels	1,924	2,836	Mainly from Venezuela.
Refinery products:			
Gasoline do	214	86	Mainly from United States.
Kerosine and jet fuel do	3	71	All from United States.
Lubricants, including greases do	46	58	Mainly from United States.
Other do	34	134	Do.
Total do	297	349	

Source: República del Ecuador. Anuario de Comercio Exterior, 1964.

El Salvador

Table 1.—El Salvador: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Gold [1] troy ounces	692	230	390	290	236
Nonmetals:					
Cement	63,834	66,188	53,588	67,980	138,637
Clay	13,000	13,900	11,200	14,300	NA
Fertilizers, mixed	---	---	NA	NA	25,562
Lime	450	NA	NA	NA	NA
Limestone and sea shells	100,316	93,200	75,500	95,900	213,424
Salt, marine thousand tons	18	72	163	127	[e] 127
Mineral fuels:					
Petroleum refinery products:					
Motor gasoline thousand 42-gallon barrels	---	793	1,024	991	994
Kerosine do	---	124	238	353	444
Distillate fuel oil do	---	644	851	992	1,070
Residual fuel oil do	---	211	1,119	664	642
Liquefied petroleum gas do	---	13	32	34	51
Total do	---	1,785	3,264	3,034	3,201

[e] Estimate.

[1] Imports into the United States.

Table 2.—El Salvador: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commotity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, semimanufactures	28	---	
Copper and alloys, all forms [1]	1	2	All to Honduras.
Iron and steel:			
Scrap	15	6	Honduras 5.
Primary forms and semimanufactures [1]	519	721	Guatemala 483; Honduras 210.
Silver:			
Ore and concentrate	27	---	
Metal and alloys troy ounces	64	26,299	All to United States
Other nonferrous metals:			
Scrap [1]	56	76	West Germany 63.
Other	8	---	
Nonmetals:			
Abrasives, natural	10	---	
Cement:			
Asbestos	3,326	1,650	Honduras 1,211; Nicaragua 362.
Portland	8,018	3,355	Honduras 3,162.
Clay and clay products:			
Common brick	115	58	Honduras 36; Guatemala 22.
Refractories	2	---	
Fertilizers, manufactured	4,535	12,194	Guatemala 9,856; Honduras 1,325.
Lime	103	130	All to Honduras.
Marble [1]	1	24	Honduras 24.
Salt	3,074	7,266	Guatemala 5,332; Honduras 1,882.
Stone:			
Dimension	120	24	Honduras 22.
Industrial	13	(2)	
Other nonmetallic minerals	1	---	
Mineral fuels:			
Petroleum:			
Refinery products [1]	222,083	155,500	Guatemala 58,844; Honduras 51,451; Costa Rica 43,857.
Gas liquids	1,048	1,418	Guatemala 1,082; Honduras 336.

[1] Includes reexports of "nationalized" goods, defined as those materials upon which duties have been paid.

[2] Less than ½ unit.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. Oct. 12, 1966. 794 pp.

Table 3.—El Salvador: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Unwrought	505	703	All from United States.
Semimanufactures	362	627	United States 175; Canada 156; United Kingdom 108.
Copper and alloys:			
Sulfate	11	5	United Kingdom 3.
Metal, all forms	596	991	United States 930.
Iron and steel:			
Pig iron, ferroalloys, and scrap	130	694	Honduras 483; United States 187.
Ingots and other primary forms	1,400	5,412	Belgium-Luxembourg 4,263; France 500.
Semimanufactures	35,707	45,795	Belgium-Luxembourg 22,491; West Germany 6,679; United States 4,006.
Lead and alloys:			
Unwrought	57	47	Belgium-Luxembourg 30; United States 12.
Semimanufactures	137	227	United States 98; Guatemala 54; Belgium-Luxembourg, 50.
Platinum-group metals troy ounces	16	64	All from United States.
Silver and alloys do	8,784	6,398	Mainly from United States.
Tin and alloys:			
Unwrought long tons	4	6	Canada 3.
Semimanufactures do	18	22	United Kingdom 18.
Zinc and alloys, all forms	72	57	Belgium-Luxembourg 25; Netherlands 26.
Nonmetals:			
Abrasives, natural:			
Diamond, industrial carats	75,000	155,000	Belgium 135,000.
Pumice, emery, and corundum	3	5	United States 4.
Asbestos:			
Crude, washed or ground	826	794	Canada 602; United States 92.
Plates, sheets and cord	85	NA	
Cement:			
Asbestos	1,162	668	Honduras 262; Guatemala 163.
Portland	46,179	93,206	Guatemala 45,156; Honduras 24,470.
Clay and clay products:			
Kaolin and clayey earths	392	698	United States 353; Guatemala 328.
Refractory earths and rocks	34	53	United States 29; Netherlands 20.
Common brick	107	17	Guatemala 14.
Refractory brick	491	1,192	United States 848; Austria 134.
Diatomite	436	367	United States 292; Guatemala 26.
Feldspar, fluorspar and cryolite	1	2	All from United States.
Fertilizer:			
Nitrogenous	102,699	74,840	West Germany 38,278; Netherlands 11,615; Netherlands Antilles 11,443.
Phosphatic	17,133	15,765	United States 15,720.
Potassic	438	3,894	United States 3,593.
Mixed	48,015	29,908	West Germany 12,885; United States 9,159.
Graphite	2	1	Mainly from United States.
Gypsum:			
Crude	1,000	2,788	Honduras 2,766.
Calcined, powder	47	62	Guatemala 46.
Lime, all types	1,185	619	Guatemala 334; United Kingdom 128.
Marble	1,137	1,178	Guatemala 1,147.
Mica	13	2	All from United States.
Salt, all types	4,270	4,249	Honduras 3,842.
Sand, gravel, and crushed rock	48	12	All from Chile.
Sodium carbonate	291	337	United States 187; West Germany 86.
Sodium hydroxide	3,154	2,592	Netherlands 1,542; United States 521.
Stone:			
Dimension	261	1,164	Guatemala 1,145.
Industrial	118	51	Guatemala 41.
Sulfur	44	40	West Germany 34.
Talc	99	75	United States 54.
Other nonmetallic minerals	561	354	Guatemala 325.

See footnotes at end of table.

Table 3.—El Salvador: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels:			
Coal, all types	99	102	West Germany 78; Netherlands 20.
Coke	263	259	Belgium-Luxembourg 120; West Germany 86.
Briquets	9	2	All from Costa Rica.
Mineral tars and products	851	96	United States 74; Guatemala 18.
Natural gas liquids	390	1,075	Venezuela 863; United States 128.
Petroleum:			
Crude and semirefined	474,680	310,226	Venezuela 307,563.
Refinery products:			
Gasoline	18,726	6,958	Netherlands Antilles 4,128; Guatemala 2,670.
Kerosine	26,916	10,503	Netherlands Antilles 7,270; Venezuela 2,317.
Fuel oil, all types	9,058	1,158	Netherlands Antilles 992.
Lubricants, including greases	4,761	6,059	United States 4,324; Netherlands Antilles 495.
Paraffin, vaseline and waxes	1,458	282	United States 279.
Asphalt and coke	6,356	---	

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. Oct. 12, 1966. 794 pp.

Ethiopia

Table 1.—Ethiopia [1]: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals:					
Gold troy ounces	28,015	[e] 27,300	[e] 27,300	24,236	[e] 24,000
Manganese ore, shipments	6,000	[3] 3,496	[3] 3,248	NA	NA
Platinum, placer troy ounces	[e] 180	[e] 180	[e] 180	353	[e] 350
Nonmetals:					
Cement thousand tons	44	[r] 34	44	96	[e] 100
Feldspar	432	[e] 500	[e] 10,000	NA	NA
Gypsum	NA	NA	[e] 4,000	[e] 2,500	[e] 2,500
Kaolin	1,000	[e] 500	[e] 500	[e] 200	NA
Lime [4]	5,488	[r] 4,887	[e] 6,000	[e] 4,000	NA
Salt [4] thousand tons	198	255	[r] 205	188	[e] 188

[e] Estimate. [r] Revised. NA Not available.

[1] Includes Eritrea.

[2] In addition to commodities listed, Ethiopia has produced small quantities of asbestos, barite, copper ore, lead ore, iron ore, mica, pumice, sulfur, and various construction materials, but quantitative data are not available.

[3] U.S. imports.

[4] Data are for years ending September 10.

Table 2.—Ethiopia: Foreign trade in mineral commodities

(Metric tons)

Commodity	1964	1965	Principal destinations and sources, 1965
Exports:			
Metals:			
Iron and steel scrap	195	108	NA.
Nonferrous scrap	75	[e] 1,000	NA.
Manganese ore	[1] 3,248	---	
Nonmetals:			
Clay construction materials	60	32	NA.
Gypsum and limestone	44	554	NA.
Salt	79,675	79,503	Japan 62,616; Kenya 10,232.
Imports:			
Metals:			
Aluminum	280	352	NA.
Copper	14	42	NA.
Iron and steel:			
Pig iron and ferroalloys	275	8	NA.
Semimanufactures:			
Bars	5,479	3,405	Belgium-Luxembourg 1,311; Italy 1,149.
Plate and sheet	18,053	17,355	Japan 14,217; Belgium-Luxembourg 1,170.
Hoop and strip	39	274	NA.
Tubes, pipes, and fittings	3,064	3,322	Italy 1,019; Japan 602; Belgium-Luxembourg 447.
Wire	3,126	2,454	Italy 974; Belgium-Luxembourg 476; U.S.S.R. 250.
Rails and accessories	1,324	630	NA.
Castings and forgings	24	394	NA.
Total	31,109	27,834	
Nonferrous metals, not elsewhere specified.	264	[e] 1,000	NA.
Nonmetals:			
Abrasives, natural	522	580	NA.
Chemical, inorganic	1,074	1,680	NA.
Clay construction materials	812	1,280	NA.
Lime, cement, and other construction materials.	25,011	28,120	U.S.S.R. 8,238; Yugoslavia 4,562; Rumania 4,052.
Stone, dimension	228	85	NA.
Sulfur	640	---	
Nonmetals, not elsewhere specified	10,369	13,965	NA.
Mineral fuels:			
Coal	1,827	7,776	NA.
Petroleum refinery products, unspecified.	158,155	102,913	Saudi Arabia 37,796; Iran 20,574; Aden 16,852.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	256	161	NA.

[e] Estimate. NA Not available.

[1] U.S. imports.

Fiji

Table 1.—Fiji: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Copper ore, gross weight	130	30	50	22	4
Gold troy ounces	87,354	107,262	100,493	109,095	112,567
Iron ore (55–60 percent iron) thousand tons	[r] 6	1	---	[r] 3	---
Manganese ore (40–50 percent Mn)	1,090	3,285	911	5,479	5,242
Silver troy ounces	38,935	46,870	60,564	60,470	67,499
Nonmetals:					
Cement	NA	NA	30,971	39,616	40,855
Lime	2,592	5,438	3,471	3,222	2,445
Stone, sand and gravel:					
Coral sand cubic meters	14,946	19,904	27,524	32,871	39,585
Sand and gravel do	250,739	264,071	222,281	510,135	NA
Stone, quarried do	NA	301,244	182,793	295,522	NA

[r] Revised. [p] Preliminary. NA Not available.

Table 2.—Fiji: Exports of principal mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Copper ore	---	22	All to Australia.
Gold, in bullion troy ounces	100,193	112,060	Do.
Manganese ore and concentrate	761	4,809	All to Japan.
Metal scrap	---	33	All to Australia.
Silver [1] troy ounces	60,262	61,536	Do.

[1] Contained in gold bullion.

Table 3.—Fiji: Imports of principal mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, semimanufactures	36	48	Australia 24; United Kingdom 21.
Copper and alloys, semimanufactures	61	68	United Kingdom 36; Australia 28.
Lead and alloys, semimanufactures	89	79	United Kingdom 38; Australia 34.
Tin and alloys, semimanufactures	311	308	United Kingdom 300.
Other nonferrous metals and alloys, semimanufactures.	75	83	Australia 67; United Kingdom 14.
Steel:			
Primary forms	159	80	Australia 44; Japan 20.
Structurals, rails, pipe, etc.	13,742	16,488	Australia 9,057; Japan 4,889.
Nonmetals:			
Cement	1,699	1,140	Mainly from United Kingdom.
Salt	1,781	1,525	United Kingdom 924; Australia 600.
Fertilizer materials, all types	35,092	33,968	Japan 32,784; United Kingdom 636.
Mineral fuels:			
Coal	4,008	3,029	All from Australia.
Coke	336	314	Australia 293; New Zealand 21.
Petroleum, refinery products:			
Gasoline and benzine thousand 42-gallon barrels	303	292	Mainly from Iran and Australia.
Kerosine and jet fuel do	430	531	Do.
Diesel fuels do	548	502	Do.
Residual fuel oils do	281	121	Do.
Lubricating oil and grease do	18	16	Do.
Bitumen do	11	18	Do.

Finland

Table 1.—Finland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Chromite ore	---	---	---	---	70,000
Cobalt [1]	2,103	1,974	1,684	1,493	[e] 1,400
Copper:					
Concentrate (10 to 26 percent copper)	176,942	155,079	147,342	129,358	120,073
Metal content of concentrate	35,100	33,900	32,300	29,800	26,390
Cathodes	33,930	37,797	33,177	30,522	31,912
Sulfate (metal content)	245	228	[e] 220	[e] 176	[e] 180
Gold thousand troy ounces [2]	15	20	22	18	15
Iron and steel:					
Iron ore:					
Magnetite concentrate (56 to 68 percent iron) thousand tons	296	362	477	658	652
Pyrite concentrate:					
Kokkola product (65 to 68 percent iron) do	6	152	204	227	324
Other roasted (50 to 60 percent iron [e]) [3] do	172	167	125	108	NA
Pig iron and ferroalloys do	[r] 399	[r] 368	[r] 644	984	985
Steel, crude do	304	308	371	363	399
Rolled products do	284	286	328	351	366
Lead:					
Concentrate (51 to 69 percent lead)	4,181	1,645	3,009	9,596	7,991
Metal content	2,868	1,145	1,890	6,307	4,633
Nickel:					
Concentrate (5 to 6 percent nickel)	44,912	54,439	58,773	55,318	52,163
Metal content of concentrate	2,463	2,930	3,170	2,950	[e] 3,000
Electrolytic	2,329	2,694	2,943	2,776	2,993
Sulfate, metal content	162	156	147	163	[e] 160
Rare earth oxides	---	NA	NA	NA	43
Selenium kilograms	5,351	6,993	6,577	5,705	5,431
Silver thousand troy ounces [2]	381	580	608	582	520
Titanium:					
Ilmenite concentrate (44 percent titania)	87,190	93,858	116,063	107,000	117,560
Dioxide [e]	12,000	16,000	17,000	20,000	22,000
Vanadium pentoxide, content of concentrate	[r] 1,030	1,248	1,756	1,721	1,733
Zinc:					
Concentrate (47 to 55 percent zinc)	96,045	119,988	114,510	126,638	100,800
Metal content of concentrate	52,171	66,353	62,991	69,010	54,375
Nonmetals:					
Asbestos	9,860	9,254	10,533	12,072	12,020
Cement thousand tons	1,357	1,428	1,572	1,755	1,557
Diatomite	1,200	2,300	2,170	950	[e] 1,000
Feldspar	15,160	12,880	10,730	11,872	9,000
Fertilizer (phosphatic, 20 percent phosphorus pentoxide)	339,500	471,700	520,400	440,900	540,500
Lime, unslaked thousand tons	224	208	240	245	227
Limestone and dolomite do	2,900	3,200	3,500	3,800	3,553
Marble	500	600	800	200	NA
Pyrite thousand tons	475	541	547	582	516
Quartz	NA	30,000	NA	35,312	43,670
Soapstone square meters	880	800	964	NA	NA
Sulfur:					
Content of pyrite	119,940	227,800	262,254	282,100	264,800
Elemental, recovered from pyrite	4,757	38,214	68,139	73,771	73,641
Sulfuric acid (100 percent)	237,800	338,200	355,564	383,208	480,200
Talc	6,430	6,756	6,000	7,000	5,000
Wollastonite (80 percent)	2,000	2,000	3,000	2,393	3,813
Mineral fuels:					
Coke thousand tons	162	165	145	142	153
Gas (manufactured) thousand cubic meters	67,999	[r] 77,325	[r] 68,411	[r] 70,103	76,342
Peat (water content 35 percent) thousand tons	66	83	76	69	[e] 70
Fuel briquets do	6	18	17	28	[e] 30

Table 1.—Finland: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels—Continued					
Petroleum refinery products: [4]					
Gasoline thousand tons	425	526	553	[r] 700	762
Kerosine do	16	17	13	13	13
Distillate fuel oil do	245	396	421	1,640	2,658
Residual fuel oil do	483	992	1,048		
Liquefied petroleum gases do	27	31	34	[r] 42	52
Bitumen and other do	160	167	292	231	221
Total refinery products do	1,356	2,129	2,361	2,626	3,706
Total crude oil processed do	1,501	[r] 2,256	2,554	[r] 2,772	3,714

[e] Estimate. [r] Revised. NA Not available.

[1] Source: United Nations, Statistical Yearbook, 1966, p. 187, (1962–1965 figures).

[2] Calculated from quantities reported in kilograms.

[3] Exports.

[4] Source: Neste Oy. Statistical office.

Table 2.—Finland: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum: [1]			
Scrap	649	147	All to West Germany.
Unwrought	800	298	Sweden 225; West Germany 52.
Semimanufactures	1,201	1,110	Denmark 260; Sweden 216; U.S.S.R. 207; Poland 145; Turkey 100.
Copper: [1]			
Scrap	21	---	
Unwrought	6,848	5,051	France 1,699; West Germany 944; United Kingdom 653; Poland 557; Mainland China 508; Sweden 457.
Semimanufactures	9,340	8,921	Sweden 5,523; Norway 1,007; Denmark 561.
Iron and steel:			
Iron ore	316,629	168,878	Poland 94,271; West Germany 37,656; Czechoslovakia 30,806.
Roasted pyrite and pyrrhotite	124,778	107,567	West Germany 105,324; Belgium-Luxembourg 2,243.
Scrap	4,240	3,085	West Germany 2,029; Sweden 530; Belgium-Luxembourg 519.
Pig iron, including cast iron	480,782	797,224	Sweden 188,468; United Kingdom 100,763; U.S.S.R. 100,701; Poland 92,892; Italy 81,121; United States 73,461.
Ferroalloys	39	---	
Ingots and other primary forms	10,688	7,095	Portugal 2,093; Pakistan 2,074; Sweden 1,195; West Germany 855.
Semimanufactures:			
Bars, rods and sections	13,696	17,049	Denmark 7,180; Norway 4,240; Sweden 2,909; Turkey 1,221; Colombia 828.
Tubes and pipes	2,949	4,647	Norway 1,420; Denmark 1,043; Sweden 871.
Other	600	1,501	Sweden 466; East Germany 398; West Germany 169; France 109; United Kingdom 101.
Lead: [1]			
Scrap	127	---	
Ore	1,840	9,527	Belgium-Luxembourg 8,257; Netherlands 1,270.
Unwrought and semimanufactures	89	---	
Nickel:			
Unwrought	3,172	2,548	West Germany 747; Netherlands 506; Sweden 438; Poland 250; France 237.
Semimanufactures	---	104	Mainland China 63; Switzerland 31; West Germany 10.
Sulfate	757	NA	NA.

See footnotes at end of table.

Table 2.—Finland: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Selenium kilograms	7,000	NA	NA.
Silver and platinum-group metals:			
Ore and concentrate	8	7	Sweden 6.
Metal troy ounces [2]	1,318	3,311	United Kingdom 2,218; West Germany 900.
Tin [1], unwrought, including scrap long tons	47	50	West Germany 18.
Titanium:			
Ilmenite concentrate	50,584	84,016	Italy 58,896; United Kingdom 10,501; Czechoslovakia 7,497.
Dioxide	15,205	19,848	United States 9,968; Sweden 1,951; Netherlands 1,216; East Germany 1,000; United Kingdom 938.
Tungsten (wire)	1	NA	NA.
Uranium and thorium	2	---	
Vanadium compounds	2,222	NA	NA.
Zinc:			
Ore	147,255	147,628	Belgium-Luxembourg 55,744; West Germany 53,014; France 12,313.
Scrap	114	---	
Unwrought	---	---	
Semimanufactures [1]	---	---	
Other nonferrous ore, not elsewhere specified	15	---	
Ashes and residues bearing nonferrous metals	758	NA	NA.
Other base metals, not elsewhere specified	14	---	
Nonmetals:			
Abrasives, natural, including industrial diamond	120	243	Sweden 232.
Asbestos:			
Crude fiber	7,554	8,562	West Germany 2,358; United States 2,266; Sweden 1,928.
Asbestos board	686	586	All to Sweden.
Cement	28,832	101,327	United Kingdom 49,735; Denmark 23,283; Sweden 19,732; Norway 8,566.
Clay and refractory building materials (brick, tile, etc.) value, thousands	$281	$346	Sweden $315; West Germany $28.
Diamond, nonindustrial, unset carats [3]	5,000	NA	NA.
Feldspar	5,530	NA	NA.
Lime	3,757	4,055	All to Sweden.
Mica, including waste and splittings	50	NA	NA.
Pyrite	78,701	62,642	West Germany 53,019; Sweden 6,823.
Stone, sand and gravel:			
Building stone (granite and gneiss):			
Unworked	7,270	8,959	West Germany 2,342; United Kingdom 1,570; France 1,265.
Worked	1,112	894	United States 588; United Kingdom 158; Netherlands 57.
Sand and gravel, and other crushed stone	e 64,000	NA	NA.
Sulfur	2,178	2,506	All to Sweden.
Other mineral materials	3,979	NA	NA.
Mineral fuels:			
Coal, excluding briquets	18,621	15,213	All to Sweden.
Coal tar and other derivatives	8	NA	NA.
Coke	9,517	13,757	Sweden 11,279; Denmark 2,478.
Gas (liquefied)	647	915	Denmark 510; Sweden 405.
Petroleum refinery products:			
Gasoline [3]	220	NA	NA.
Kerosine [3]	7	NA	NA.
Distillate fuel oil	249	NA	NA.
Residual fuel oil	42	NA	NA.
Lubricants, including grease	186	149	Belgium-Luxembourg 54; Sweden 34.
Bitumen and other	139	NA	NA.
International bunkers:			
Distillate fuel oil	3,582	NA	NA.
Residual fuel oil	10,366	NA	NA.

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e Estimate. NA Not available.

[1] Including alloys.

[2] Calculated from quantities reported in kilograms.

[3] Estimated from quantities reported in cubic meters.

Table 3.—Finland: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum: [1]			
Oxide and hydroxide	11,640	13,773	Poland 5,862; West Germany 4,799; United Kingdom 1,503; France 1,501.
Unwrought, including scrap	6,330	8,243	U.S.S.R. 6,187; Canada 1,149.
Semimanufactures	13,352	12,384	Sweden 3,329; United Kingdom 2,325; Belgium-Luxembourg 2,092; West Germany 884.
Antimony	139	NA	NA.
Cadmium	11	NA	NA.
Chromium:			
Chromite	36	---	
Oxide and hydroxide	395	677	West Germany 300; Poland 199; Italy 100.
Cobalt	(2)		
Columbium	(2)		
Copper: [1]			
Unwrought	5,755	11,404	Zambia 5,445; Chile 1,839; United Kingdom 1,296; West Germany 1,066.
Semimanufactures	2,004	3,809	Chile 1,200; West Germany 920; United Kingdom 874.
Iron and steel:			
Iron ore	513,575	970,117	Sweden 789,643; Norway 130,439; Spain 25,400.
Scrap	140,890	138,903	U.S.S.R. 126,148; United States 9,437; Switzerland 3,214.
Pig iron, including cast iron	14,310	1,261	Norway 1,221.
Powder, sponge, shot, etc	1,495	1,633	United Kingdom 936; Sweden 635.
Ferroalloys	7,220	10,981	Norway 5,358; U.S.S.R. 4,519; Sweden 524.
Ingots and other primary forms	36,665	60,512	U.S.S.R. 25,016; Sweden 21,334; Norway 8,482; West Germany 4,665.
Semimanufactures:			
Bars, rods, sections	107,432	144,658	West Germany 39,077; Sweden 27,079; Poland 18,896; France 12,113; Belgium-Luxembourg 9,900.
Plates and sheet	322,044	340,289	U.S.S.R. 80,412; United Kingdom 66,912; Belgium-Luxembourg 51,673; West Germany 45,523; Netherlands 20,669.
Hoop and strip	27,380	28,461	United Kingdom 10,319; West Germany 6,919; Belgium-Luxembourg 4,820.
Rails and accessories	50,979	883	West Germany 622; United Kingdom 188.
Wire	15,537	16,072	United Kingdom 3,627; France 3,425; Belgium-Luxembourg 2,418; Sweden 2,339; West Germany 2,081.
Tubes and pipes	79,938	87,028	West Germany 35,468; France 15,672; Belgium-Luxembourg 7,278; Czechoslovakia 6,254; United Kingdom 5,718; Sweden 5,195.
Castings and forgings	127	553	Sweden 272; Denmark 140; Austria 102.
Total semimanufactures	603,437	617,944	
Oxide and hydroxide	1,130	1,094	West Germany 769; United Kingdom 211.
Lead: [1]			
Unwrought	11,028	10,224	U.S.S.R. 6,868; Sweden 1,900; United Kingdom 1,053.
Semimanufactures	653	549	West Germany 342; Belgium-Luxembourg 150; United Kingdom 43.
Oxide	466	590	Sweden 372; United Kingdom 160.
Magnesium, unwrought, including scrap.	18	28	NA.
Manganese:			
Ore	26,762	93,903	U.S.S.R. 44,509; Sweden 32,895; Belgium-Luxembourg 16,499.
Oxide	^{r}303	351	Netherlands 201; Japan 30; France 30.
Mercury 76-pound flasks	435	1,537	Netherlands 261; Philippines 261; Italy 203; Yugoslavia 203.
Molybdenum	1	3	West Germany 2.
Nickel:			
Unwrought [1]	231	267	United Kingdom 232; U.S.S.R. 20.
Nickel-alloy scrap	125	468	United States 179; Sweden 173; Switzerland 33.
Semimanufactures	180	162	United Kingdom 69; Switzerland 49; West Germany 35.
Radioactive materials [3] value, thousands	$127	$73	All from Sweden.

See footnotes at end of table.

Table 3.—Finland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Silver and platinum-group metals:			
Silver...thousand troy ounces[4]	745	456	West Germany 207; United Kingdom 101; Switzerland 87; U.S.S.R. 32.
Platinum-group metals....do....	5	6	NA.
Tin:[1]			
Unwrought..........long tons..	314	442	Mainland China 260; United Kingdom 62; Netherlands 45; Sweden 45.
Semimanufactures........do....	30	27	West Germany 17; United Kingdom 6.
Titanium dioxide	1,550	1,412	Japan 550; Norway 366; West Germany 331.
Tungsten, unwrought and semimanufactures	2	6	United Kingdom 5.
Zinc:[1]			
Oxides	272	424	East Germany 101; United Kingdom 100; Netherlands 85; West Germany 69.
Unwrought, including scrap	3,970	8,063	U.S.S.R. 4,325; Belgium-Luxembourg 2,625; Congo 508.
Semimanufactures	384	306	West Germany 128; Belgium-Luxembourg 73; United States 41; Poland 38.
Metalliferous ore and concentrate, not elsewhere specified	275	NA	NA.
Nonferrous metal scrap, not elsewhere specified	168	NA	NA.
Other nonferrous base metals, not elsewhere specified	14	NA	NA.
Nonmetals:			
Abrasives, natural, other than diamond	1,409	1,064	United States 573; West Germany 104.
Asbestos:			
Crude	6,755	7,478	U.S.S.R. 4,101; Canada 1,566; Republic of South Africa 1,380.
Manufactures (nonfriction)	406	NA	NA.
Asbestos and other fiber-cement articles.	276	1,204	Czechoslovakia 678; West Germany 296; United Kingdom 206.
Asphalt and bitumen:			
Crude, natural	1,206	198	United States 115.
Manufactured articles	1,208	997	Denmark 717; Netherlands 184; France 53.
Carbon black	2,048	2,686	Netherlands 1,146; United Kingdom 1,001.
Cement	9,847	13,759	U.S.S.R. 6,583; Denmark 3,652; United Kingdom 2,196.
Chalk	[r] 9,357	8,519	Denmark 3,678; France 3,169.
Clay:			
Kaolin	134,732	208,289	United Kingdom 169,416; West Germany 13,814; Sweden 6,611.
Other refractory earths	61,483		
Construction materials (brick, tile, etc.):			
Refractory	26,142	23,650	Sweden 5,322; Austria 4,841; United Kingdom 4,706; West Germany 4,163.
Nonrefractory	13,602	12,084	U.S.S.R. 6,353; Sweden 2,582; Denmark 1,766.
Diamond and other precious, semiprecious stones:			
Diamond:			
Industrial.........carats[4]	30,000	40,000	Belgium-Luxembourg 15,000; United Kingdom 15,000.
Nonindustrial, unset..do....	35,000	NA	NA.
Other, including synthetic kilograms..	1,605	NA	NA.
Earth pigments	47	459	West Europe 439.
Fertilizer materials:			
Phosphate:			
Raw phosphate	325,034	366,753	U.S.S.R. 245,578; Morocco 121,172.
Basic slag	10,031	15,451	All from Sweden.
Superphosphate (less than 20 percent P_2O_5)	35,655	145,896	Netherlands 79,788; Spain 40,547; Belgium-Luxembourg 24,158.
Other phosphatic	848		
Potassium salts (minimum 48 percent K_2O).	173,938	223,282	U.S.S.R. 68,296; East Germany 68,216; West Germany 43,110.
Nitrogenous	141,782	157,126	Norway 67,549; West Germany 54,267; Netherlands 15,327; Sweden 6,162.
Feldspar and fluorspar[5]	4,391	7,631	Sweden 2,648; United Kingdom 1,347; France 1,211; Republic of South Africa 1,209.
Flint	36	NA	NA.
Gypsum and anhydrite, including plasters.	122,186	132,930	Poland 90,067; U.S.S.R. 18,185; East Germany 17,576; France 4,665.

See footnotes at end of table.

Table 3.—Finland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Lime	36	NA	NA.
Limestone, for cement, flux, etc	206,903	206,448	Sweden 202,555; Denmark 3,330.
Mica manufactures	24	31	United Kingdom 21.
Quartz and quartzite	1,900	4,418	Netherlands 1,326; Sweden 954; Belgium-Luxembourg 937; Norway 357.
Salt	307,154	325,875	Netherlands 167,172; East Germany 47,714; United Kingdom 29,184; Poland 19,634; Tunisia 18,154.
Stone, sand and gravel:			
Building stone, including worked stone.	738	977	Italy 353; West Germany 303; Sweden 70.
Sand:			
Quartz sand	41,688	85,082	Belgium-Luxembourg 56,762; Sweden 13,957.
Other sand	23,619		
Sulfur, elemental, all forms	70,725	72,121	United States 41,326; France 19,228; U.S.S.R. 6,105.
Talc and steatite	3,826	4,462	Norway 1,354; United States 1,337; mainland China 1,200.
Other crude minerals:			
Slag, scale, ash, etc	23,099	57,741	Sweden 38,221; Belgium-Luxembourg 9,255; United Kingdom 8,058.
Other	13,860	NA	NA.
Mineral fuels:			
Coal excluding briquets thousand tons	2,414	2,517	Poland 1,819; U.S.S.R. 692; United Kingdom 5.
Coal tar and other derivatives	16,573	55,634	United Kingdom 38,918; Poland 9,336; U.S.S.R. 6,714.
Coke thousand tons	887	832	U.S.S.R. 568; Poland 143; West Germany 77; United Kingdom 37.
Gas (liquefied)	680	1,304	Norway 1,069; Netherlands 196; France 22.
Lignite and briquets	6,086	2,781	All from East Germany.
Petroleum:			
Crude thousand tons	2,581	NA	NA.
Refinery products:			
Gasoline [6]	12,500	19,930	Netherlands 8,016; Netherlands Antilles 6,766; United States 3,481.
Kerosine	22,766	31,881	U.S.S.R. 13,010; Netherland Antilles 8,824; Netherlands 3,687.
Distillate fuel oil thousand tons	1,335	1,690	U.S.S.R. 1,616; Czechoslovakia 46; Rumania 28.
Residual fuel oil do	893	1,193	U.S.S.R. 963; Rumania 170; Poland 60.
Lubricants, including grease	64,372	66,915	United Kingdom 25,604; Sweden 15,318; U.S.S.R. 7,193; United States 6,712; Netherlands 5,515.
Petroleum and wax	8,589	10,940	West Germany 5,534; United States 1,798; East Germany 1,011.
Bitumen and other	68,782	162,000	Venezuela 137,930; West Germany 6,908; Netherlands 5,899; Hungary 4,112.

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[r] Revised. [e] Estimate. NA Not available.

[1] Including alloys.

[2] Less than ½ unit.

[3] Including compounds and mixtures of uranium, thorium, and rare-earth metals.

[4] Calculated from quantities reported in kilograms.

[5] Includes crude mica and cryolite.

[6] Estimated from quantities reported in cubic meters.

France

Table 1.—France: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Bauxite:					
For alumina thousand tons	2,058	1,911	2,329	2,519	NA
For other uses do	136	118	104	143	NA
Total do	2,194	2,029	2,433	2,662	2,805
Alumina:[1]					
Hydrated	651,502	726,900	805,683	873,825	960,200
Calcined	602,088	649,543	741,139	772,928	845,000
Metal, primary	295,097	298,365	315,990	[r] 340,528	363,511
Metal, secondary	46,900	49,500	50,340	[r] 50,250	59,600
Rolled and extruded, including foil	157,100	165,000	[r] 177,600	[r] 177,400	188,300
Castings	71,400	81,400	NA	NA	13,680
Antimony:					
Content of ore	---	100	[r] 108	[r] 121	[e] 110
Smelter	778	703	639	446	500
Arsenic[2]	4,786	7,982	8,595	9,187	NA
Beryllium kilograms	15,164	6,201	14,281	NA	NA
Bismuth, smelter do	55,216	43,400	56,065	48,260	67,000
Cadmium	257	297	492	[r] 425	476
Chromium	352	531	460	629	NA
Cobalt, smelter	631	752	749	889	NA
Copper:					
Mine (metal content)	225	274	267	[r] 283	613
Secondary blister	6,227	6,458	7,600	11,000	9,925
Refined:					
Electrolytic	25,966	27,200	30,700	30,200	30,000
Secondary from scrap	11,545	6,500	7,200	11,088	12,700
Total	37,511	33,700	37,900	41,288	42,700
Gold-silver ore	136,771	150,034	149,107	148,226	NA
Gold troy ounces	45,751	54,560	53,434	51,537	56,199
Iron and steel:					
Iron ore thousand tons	66,301	57,892	60,938	59,532	55,050
Pig iron and blast furnace ferroalloys do	13,959	14,306	15,863	15,769	15,590
Spiegeleisen and high carbon ferromanganese thousand tons	410	368	412	432	355
Other ferroalloys[3]	210	201	218	247	255
Steel ingots and metal for casting thousand tons	[r] 17,107	[r] 17,431	[r] 19,505	[r] 19,340	19,585
Rolled steel do	13,086	13,198	14,619	14,793	14,856
Lead:					
Ore	21,643	10,626	15,595	[r] 24,971	36,312
Contained metal in lead and zinc concentrates	14,275	8,396	12,190	18,051	23,603
Smelter, primary	70,567	77,627	89,790	98,356	108,638
Secondary	9,107	10,202	14,475	29,215	33,255
Antimonial lead[4]	14,621	17,770	17,415		
Total refined lead	94,295	105,599	121,680	127,571	141,891
Magnesium	2,120	1,743	989	2,841	3,416
Manganese:					
Ore	1,361	1,306	1,277	1,400	NA
Metal	1,119	925	1,734	2,704	NA
Nickel, metal content of pure nickel, ferronickel, and nickel oxide	10,244	9,612	7,661	6,669	12,000
Silicon	16,707	15,445	21,245	21,493	NA
Silver, content of metallurgical plant final products thousand troy ounces	2,414	3,843	3,688	3,302	3,922
Tantalum kilograms	445	308	170	NA	NA
Thorium	74	227	180	NA	NA
Tin concentrate:					
Gross weight long tons	446	370	655	602	NA
Metal content do	314	272	486	[r] 447	[e] 418
Titanium	18	19	13	NA	NA
Tungsten concentrate, gross weight	624	---	---	---	---

See footnotes at end of table.

Table 1—France: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Ietals—Continued					
Uranium:					
Ore:					
Gross weight	795,503	793,829	773,800	784,200	NA
Metal content	1,041	1,083	1,009	1,072	NA
Concentrate (chemical):					
Gross weight	4,044	4,700	4,441	NA	NA
Metal content	1,521	1,529	1,470	1,516	NA
Metal	1,032	1,205	1,843	NA	NA
Zinc:					
Ore	31,787	25,781	25,205	38,638	43,092
Mixed concentrate (lead and zinc)	---	9,514	7,411		
Zinc content of zinc and lead concentrates	14,275	18,198	16,841	20,902	23,701
Smelter including secondary	164,220	169,100	190,236	192,036	196,536
Zinc dust	4,923	4,254	4,120	4,330	4,059
Remelted zinc	31,656	33,821	[5] 42,102	34,596	33,213
Zirconium kilograms	38,500	73,300	112,000	NA	NA
onmetals:					
Alabaster	1,030	1,300	820	1,140	NA
Asbestos	[r] 25,432	[r] 23,672	22,035	[r] 6,809	[e] 7,000
Barite	83,978	74,460	83,821	104,084	[e] 100,000
Beach pebble	198,708	193,320	174,943	170,326	NA
Building stone:					
Granite and similar rocks thousand tons	953	896	1,034	1,172	NA
Limestone do	2,636	2,886	3,850	3,019	NA
Marble thousand tons	165	199	245	501	NA
Other stones do	109	124	127	123	NA
Crushed limestone and granite do	2,464	2,812	4,080	3,890	NA
Cement, all types	16,882	18,134	21,537	[r] 22,365	23,280
Chalk and similar calcareous rocks thousand tons	3,253	3,853	3,676	3,608	NA
Clays:					
Bentonite do	18,367	19,959	17,328	15,527	NA
Brick and tile clay do	7,902	8,555	9,993	10,530	NA
Ceramic and pottery clay	284,429	39,1306	355,162	338,203	NA
Clay and marl for cement industry thousand tons	6,194	6,678	8,370	10,045	NA
Kaolin and kaolinitic clay	240,059	271,792	287,475	295,392	NA
Refractory clay thousand tons	893	912	1,057	1,034	NA
Diatomaceous earth	127,090	132,725	133,083	[e] 133,000	[e] 133,000
Dolomite:					
For agriculture	121,533	106,177	92,495	130,540	NA
Crude for calcining	474,958	476,386	611,552	668,930	NA
Other	249,816	367,518	416,150	500,867	NA
Feldspar and pegmatites	172,924	173,504	196,361	[r] 221,141	[e] 203,000
Fluorspar	139,765	145,428	[r] 195,153	195,565	[e] 240,000
Fly ash thousand tons	---	---	4,583	NA	NA
Gypsum:					
For agriculture	11,130	11,073	8,134	7,510	NA
Plaster and cement thousand tons	3,898	4,107	4,790	4,872	NA
Anhydrite	87,441	95,637	113,974	132,986	NA
Lava	10,265	10,029	13,388	9,786	NA
Lime:					
Hydraulic thousand tons	771	739	791	831	1,218
High-grade (fat lime) do	2,792	2,648	2,917	[r] 2,825	2,870
Limestone:					
For agriculture do	763	724	749	702	NA
For iron and steel industry do	3,994	4,317	5,071	5,105	NA
For lime and cement do	18,213	19,227	21,339	22,367	NA
For sugar mills do	544	639	735	672	508
Total do	23,514	24,907	27,894	28,864	NA
Marl	305,096	215,775	217,272	224,654	NA
Mica	86	173	293	195	[e] 200
Millstones and grindstones	1,357	1,267	1,113	1,202	NA
Mine fill thousand tons	12,073	10,212	12,719	12,665	NA
Ochre and mineral pigments	5,698	4,747	5,265	4,513	NA
Phosphatic chalk	67,442	50,423	43,109	[r] 34,590	[e] 25,000
Potash:					
Gross weight of mine run ore thousand tons	11,024	11,058	11,406	11,832	11,537
K_2O equivalent do	[r] 1,722	[r] 1,722	[r] 1,807	[r] 1,879	1,910
Pumice	1,702	770	916	708	700
Pozzolana and lapilli	473,325	545,661	585,631	[r] 709,543	[e] 700,000
Pyrite	303,954	252,310	191,341	[r] 134,361	88,016
Quartz	268,394	263,429	302,165	315,683	NA

See footnotes at end of table.

Table 1.—France: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Road building foundation and ballast materials (other than sand and gravel):					
Ballast .... thousand tons..	42,392	45,965	52,279	57,793	NA
Foundation material .... do....	2,583	3,224	5,329	4,675	NA
Paving block and curbing .... do....	163	152	230	139	NA
Ground rock for road fillers .... do....	475	306	87	151	NA
Total .... do....	45,613	49,647	r 57,925	62,768	NA
Salt .... do....	4,258	3,694	4,032	4,449	e 4,200
Sand and gravel (alluvial only):					
By dredging .... do....	47,516	53,527	61,918	66,999	NA
By other winning methods .... do....	27,629	35,196	48,490	54,353	NA
Total .... do....	75,145	88,723	110,408	121,352	123,000
Sand, industrial:					
Glass .... do....	1,236	1,211	1,438	1,613	1,190
Foundry .... do....	1,610	1,741	1,692	1,697	1,978
Miscellaneous .... do....	395	282	451	452	NA
Total .... do....	3,241	3,234	3,581	3,762	NA
Slate:					
Roof	114,972	119,046	121,319	121,211	123,600
Other	44,145	47,156	45,700	56,763	NA
Sulfur .... thousand tons..	1,346	1,409	1,511	1,521	1,519
Talc	187,000	158,121	205,400	r 240,288	207,069
Mineral fuels:					
Bituminous and asphaltic material	106,363	109,225	107,608	117,000	NA
Bituminous and anthracite coal . thousand tons..	r 52,370	47,762	r 53,042	51,348	50,338
Lignite .... do....	2,882	r 2,471	r 2,244	r 2,690	2,564
Peat .... do....	31	r 35	r 50	47	e 48
Coke oven coke (including low temperature, oven coke and breeze	13,785	13,735	14,303	13,650	12,396
Gas coke .... do....	247	138	61	20	12
Coal briquets .... do....	6,949	8,014	6,638	5,806	5,064
Natural gas [6] (gross production) million cubic feet..	247,509	265,977	280,871	279,845	232,827
Petroleum:					
Crude .... thousand tons..	2,370	2,522	2,845	2,988	2,932
Refinery products [7] .... do....	37,609	44,094	50,376	57,596	NA
Carbon black	63,100	76,200	85,960	99,800	NA

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e Estimate. p Preliminary. r Revised. NA Not available.

[1] Hydrated and calcined alumina are successive stages of alumina production and are not to be added.

[2] Arsenic content of final products.

[3] Ferromolybdenum, ferrotungsten, and ferrovanadium data are for contained metal.

[4] Lead content.

[5] Based on first 6 months production.

[6] Natural gas reported at 15° C. and an atmospheric pressure of 760 millimeters of mercury in France has been converted to cubic feet at 60° F (15.56° C) and 14.7 pounds per square inch (760 millimeters of mercury) by multiplying by 35.37865.

[7] Gross refinery output.

Table 2.—France: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	Total export 1964	Total export 1965	EEC[1]	1965 destinations: Principal destinations
Metals:				
Aluminum:				
Oxide and hydroxide[2]	156,584	131,730	8,786	Switzerland 67,893; Spain 24,514.
Bauxite	199,634	201,784	105,378	West Germany 102,218; United Kingdom 79,404.
Metallurgical residues	1,705	2,981	NA	NA.
Metal, including alloys:				
Scrap	11,425	12,377	12,023	West Germany 8,080; Italy 3,509.
Ingots	125,163	182,699	118,668	Belgium-Luxembourg 93,112; United States 38,370; West Germany 17,551.
Semimanufactures	42,458	42,596	17,696	United States 7,925; West Germany 7,773; Italy 4,308; Netherlands 3,169.
Antimony:				
Ore	51	NA	NA	NA.
Metal, including scrap	94	74	NA	NA.
Arsenic (anhydride)	9,466	10,373	1,495	United States 3,749; Japan 1,570; United Kingdom 1,261; Italy 1,189.
Beryllium	5	6	---	United States 4; United Kingdom 1.
Bismuth	61	59	NA	NA.
Cadmium	77	104	NA	NA.
Chromium:				
Oxide and hydroxide	570	750	246	United States 201; Sweden 136; Netherlands 107.
Ore	160	403	391	West Europe 402.
Metal	186	340	NA	NA.
Cobalt	573	649	NA	NA.
Columbium ..... value, thousands	$13	$1	NA	NA.
Copper:				
Metallurgical residues	7,286	7,505	NA	NA.
Matte	808	1,663	1,663	Netherlands 1,119; West Germany 453.
Metal and alloys:				
Blister and other unrefined	11,850	18,634	18,430	Belgium-Luxembourg 9,736; West Germany 7,202; Italy 968.
Scrap	45,580	41,199	38,704	West Germany 18,204; Belgium-Luxembourg 10,896; Italy 8,895.
Refined	7,288	10,583	9,313	Netherlands 4,522; West Germany 4,098.
Semimanufactures	20,836	34,352	15,555	West Germany 8,680; United States 6,514; Netherlands 4,196.
Gallium[3] ..... value, thousands	$188	$170	NA	NA.
Germanium	10	7	NA	NA.
Gold:[4]				
Metal, including alloys troy ounces	21,605	16,847	NA	NA.
Ashes and sweepings ..... do	4,244	3,890	NA	NA.
Other metal (temporary imports and exports) ..... do	32,504	51,409	NA	NA.
Iron and steel:				
Iron ore ..... thousand tons	22,091	20,747	20,657	Belgium-Luxembourg 14,672; West Germany 5,984; United Kingdom 89.
Pyrite cinder ..... do	291	243	238	West Germany 213; Belgium-Luxembourg 24; United Kingdom 5.
Slag, dust, scale, etc. ..... do	1,430	1,193	1,108	West Germany 987; Belgium-Luxembourg 116; Switzerland 64.
Scrap ..... do	1,502	1,832	1,830	Italy 1,706; West Germany 82; Belgium-Luxembourg 39.
Pig iron,[5] including speigeleisen do	129	130	124	West Germany 64; Italy 36; Belgium-Luxembourg 23.
Ferroalloys ..... do	247	256	156	West Germany 68; United States 66; Belgium-Luxembourg 50; Italy 32.
Ingots and other primary forms do	842	787	456	Italy 210; Belgium-Luxembourg 129; West Germany 117; United States 110.
Semimanufactures:				
Bars, rods, sections[6] do	2,017	2,372	881	West Germany 583; United States 450; Belgium-Luxembourg 167; Switzerland 158; Canada 122.

See footnotes at end of table.

Table 2.—France: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total export		EEC[1]	1965 destinations
	1964	1965		Principal destinations
Metals—Continued				
Iron and steel—Continued				
Semimanufactures—Continued				
Universals, plate, sheet thousand tons	2,325	2,426	1,167	West Germany 841; Italy 197; United States 180; Switzerland 152.
Hoop and strip do	220	223	126	West Germany 73; Italy 38; Switzerland 27.
Rails and accessories do	101	140	33	Republic of South Africa 44; Italy 23; Cameroon 9.
Wire do	113	111	14	United States 25; Algeria 11; West Germany 8; Indonesia 6.
Tubes, pipes, fittings do	526	601	94	Netherlands 66; Iran 60; United States 48; Switzerland 30; Sweden 27.
Castings and forgings, rough do	4	4	2	West Germany 1.
Lead:				
Ore	5,057	3,178	2,938	Belgium-Luxembourg 2,938; Saudi Arabia 128.
Metallurgical residues	9,333	5,799	NA	NA.
Oxides	6,376	5,628	2,919	Netherlands 1,325; West Germany 1,032; Czechoslovakia 669.
Metal including alloys:				
Scrap	9,723	12,132	12,114	Italy 9,146; Belgium-Luxembourg 2,345; West Germany 537.
Pig, including alloys	16,690	14,926	6,772	West Germany 4,840; Switzerland 4,046; Netherlands 1,594.
Semimanufactures, including alloys.	1,408	1,160	182	Syria 203; Norway 166; Algeria 136.
Magnesium, all forms	201	21	5	Israel 8.
Manganese:				
Ore	1,758	1,591	1,221	Italy 717; Netherlands 280; Switzerland 210.
Oxide	282	221	167	West Germany 166.
Metal, all forms	1,043	1,590	NA	NA.
Mercury 76-pound flasks	116	203	30	Upper Volta 87.
Molybdenum:				
Ore	42	15	NA	NA.
Oxide	18	60	NA	NA.
Metal, all forms	27	11	8	West Germany 5; Switzerland 2.
Nickel:				
Matte, speiss, etc	666	56	19	United Kingdom 37; West Germany 17.
Metallurgical residues	387	854	NA	NA.
Oxide and hydroxide	507	380	NA	NA.
Metal including alloys:				
Scrap	840	1,378	581	United Kingdom 749; West Germany 339; Netherlands 141.
Ingots	3,332	4,808	1,136	Mainland China 3,108; West Germany 824.
Semimanufactures, including anodes.	1,139	1,773	679	Spain 429; West Germany 407; Switzerland 173; Belgium-Luxembourg 173.
Platinum and platinum-group:[4]				
Metal, including alloys troy ounces	61,086	73,947	28,936	Netherlands 19,291; Spain 16,076; United Kingdom 9,645; Switzerland 9,645.
Ashes and sweepings do	55,460	96	NA	NA.
Selenium	2	1	NA	NA.
Silver:[4]				
Metal, including alloys thousand troy ounces	4,057	6,186	4,992	West Germany 2,884; Netherlands 1,276; Belgium-Luxembourg 727; Spain 367.
Ashes and sweepings thousand troy ounces	608	122	NA	NA.
Sodium metal	1,898	1,905	1,547	Mainly to Italy.
Tantalum (powder)	2	2	1	West Germany 2.
Tin:				
Ore long tons	643	642	138	Spain 493; Netherlands 138.
Oxide do	48	54	53	West Germany 53.

See footnotes at end of table.

Table 2.—France: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total export		EEC[1]	1965 destinations
	1964	1965		Principal destinations
Metals—Continued				
Metal including alloys:				
Scrap do	33	26	13	United Kingdom 13; Netherlands 6.
Ingots do	195	231	14	United Kingdom 70; Algeria 38; Switzerland 33.
Semimanufactures do	63	83	6	United Kingdom 21; Tunisia 20.
Titanium:				
Dioxide	10,676	10,725	1,521	United States 6,212; West Germany 718; Italy 682; Brazil 478.
Metal, all forms	35	48	NA	NA.
Tungsten:				
Ore	64	5	5	All to Italy.
Trioxide	113	122	NA	NA.
Metal, all forms	177	206	101	West Germany 85; United Kingdom 41; Sweden 35.
Uranium and other radioactive materials:				
Ore	3,334	2,888	2,888	All to West Germany.
Metal, including thorium kilograms	800	1,300	---	Australia 1,000.
Other radioactive material metric tons	256	333	NA	NA.
Zinc:				
Ore	718	505	505	All to Belgium-Luxembourg.
Matte, ashes, residues	33,707	14,230	NA	NA.
Dust (blue powder)	1,046	1,292	---	Norway 1,200; Spain 70.
Oxide	4,088	4,720	1,742	West Germany 1,174; Morocco 436; Turkey 424; Israel 312; Netherlands 311.
Metal including alloys:				
Scrap	1,144	764	764	Italy 624; West Germany 83; Belgium-Luxembourg 57.
Slab and ingot	11,921	18,022	10,494	West Germany 6,341; Italy 3,742; Philippines 1,703; Portugal 1,493.
Semimanufactures	1,709	3,041	2,126	West Germany 2,120; Turkey 358; Tunisia 90.
Zirconium:				
Ore	243	177	NA	NA.
Oxide	33	58	NA	NA.
Metal, including nuclear grade	13	38	NA	NA.
Other metals[7]	15	65	NA	NA.
Other metallic ores, ashes, residues	30,186	28,605	NA	NA.
Other slag and ash	49,695	114,553	104,792	West Germany 80,282; Switzerland 9,741.
Nonmetals:				
Abrasives, natural, not elsewhere specified.	640	381	302	West Germany 288.
Asbestos, crude	8,926	5,013	1,926	Algeria 1,823; Belgium-Luxembourg 1,056; Argentina 511; Netherlands 501.
Asbestos-cement products	38,719	34,277	10,059	West Germany 8,707; United Kingdom 4,881; Ivory Coast 2,427.
Barite, including witherite	16,162	14,046	8,510	Belgium-Luxembourg 3,603; Italy 2,345; Tunisia 1,957; Netherlands 1,166.
Borates, natural	698	1,212	620	West Germany 415; Morocco 384; Netherlands 200.
Bromine	977	1,101	NA	NA.
Cement thousand tons	836	717	289	West Germany 229; Spain 67; Malagasy Republic 48; Ivory Coast 35.
Chalk	247,603	269,803	233,886	West Germany 111,017; Belgium-Luxembourg 69,975; Netherlands 33,261.
Clays and clay products:				
Crude:				
Kaolin	55,939	56,109	382,896	Italy 162,749; West Germany 149,585; Belgium-Luxembourg 65,489; Switzerland 19,303.
Bentonite	3,045	2,429		
Refractory	346,209	343,201		
Other	40,023	26,714	---	
Clay and refractory construction materials (bricks, tile, etc.).	183,689	194,642	110,319	West Germany 74,972; Belgium-Luxembourg 24,781; United Kingdom 9,553; Poland 7,397.

See footnotes at end of table.

Table 2.—France: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total export		EEC[1]	1965 destinations
	1964	1965		Principal destinations
Nonmetals—Continued				
Corundum:				
Natural, including emery	105	50	NA	NA.
Artificial	9,941	10,172	NA	NA.
Cryolite and chiolite, natural	40	556	NA	NA.
Diamond:				
Industrial, excluding powder value thousands	$1,379	$1,383	$724	West Germany $349; Netherlands $257; Ireland $154; India $147.
Gem, unset do	$4,875	$3,843	NA	NA.
Dust and powder do	r $114	$112	$80	Belgium-Luxembourg $76; United Kingdom $30.
Diatomite	14,587	16,564	15,306	West Germany 12,972; Netherlands 903; Italy 769.
Dolomite, including calcined	26,486	24,674	14,634	West Germany 10,910; Switzerland 3,926; Belgium-Luxembourg 3,576.
Earth pigments, including iron oxide	12,028	8,376	4,161	Netherlands 1,381; United Kingdom 1,290; West Germany 1,260.
Earths, other (pozzolan, santorin, etc.).	2,175	2,139	NA	NA.
Feldspar	26,901	25,338	NA	NA.
Fertilizer materials:				
Crude:				
Nitrogenous (natural sodium nitrate).	130	487	---	Algeria 217; Mauritania 150.
Phosphate rock	2,547	14,606	---	Austria 12,820; Switzerland 1,033; Spain 320.
Potassic salts	91,483	92,151	88,083	Netherlands 46,017; Belgium-Luxembourg 42,011.
Organic	34,452	32,602	12,134	Switzerland 14,232; West Germany 7,189; Spain 3,571.
Manufactured:				
Nitrogenous thousand tons	489	645	66	Mainland China 208; Algeria 71; Greece 59; Belgium-Luxembourg 53.
Phosphatic:				
Basic slag do	343	337	17	Austria 160; Switzerland 126.
Other do	55	47	22	Netherlands 13; Italy 9; Denmark 7; Switzerland 7.
Potassic do	1,403	1,187	406	United Kingdom 223; Belgium-Luxembourg 217.
Flint (pebbles)	75,699	80,792	NA	NA.
Fluorspar	58,625	86,332	NA	NA.
Graphite	2,284	1,900	736	United Kingdom 683; West Germany 283; Spain 226; Italy 200.
Gypsum and anhydrite, including plaster.	766,524	786,572	488,829	Belgium-Luxembourg 404,742; Sweden 161,962; United Kingdom 53,184; Netherlands 49,318; Nigeria 46,060.
Lime	173,545	194,110	170,465	West Germany 94,519; Belgium-Luxembourg 75,832.
Limestone, for flux, cement, etc	182,695	179,593	101,431	Belgium-Luxembourg 83,522; Switzerland 51,861; Guinea 22,800.
Lithium and strontium minerals	238	NA	NA	NA.
Magnesite, including calcine	219	534	471	West Germany 411; Italy 42.
Mica	353	577	614	West Germany 334.
Precious and semiprecious stones [8] value, thousands	$6,152	$8,660	NA	NA.
Pumice	53	33	NA	NA.
Pyrite	2,176	30	NA	NA.
Quartz and quartzite	1,430	1,874	1,374	Belgium-Luxembourg 988.
Salt	137,257	94,071	87,327	Belgium-Luxembourg 68,984; West Germany 15,180; Netherlands 3,162.
Slate, rough and finished	18,885	17,089	16,188	Netherlands 7,884; Belgium-Luxembourg 6,707; West Germany 1,566.
Stone, sand and gravel: [9]				
Building stone:				
Unfinished	125,476	120,494	102,895	Belgium-Luxembourg 73,393; West Germany 17,208; Switzerland 16,863; Italy 5,210.
Finished	6,448	6,014	4,811	West Germany 2,789; Belgium-Luxembourg 1,530.

See footnotes at end of table.

Table 2.—France: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total export 1964	Total export 1965	EEC[1]	1965 destinations: Principal destinations
Nonmetals—Continued				
Stone, sand and gravel—Continued				
Building stone—Continued				
Gravel and other crushed stone thousand tons	3,764	5,839	5,069	West Germany 4,352; Switzerland 717; Netherlands 442; Belgium-Luxembourg 272.
Sand do	1,360	1,451	1,090	West Germany 660; Switzerland 341; Belgium-Luxembourg 247; Italy 182.
Sulfur, elemental do	1,045	925	202	United Kingdom 319; West Germany 95; Netherlands 82; Switzerland 64.
Talc and steatite	51,278	51,182	18,909	West Germany 10,888; United Kingdom 8,589; Algeria 6,604; Switzerland 6,358.
Other mineral substances	141,614	146,443	NA	NA.
Mineral fuels:				
Asphalt and bitumen, natural	20,429	19,230	---	United Kingdom 18,951.
Asphalt, worked	4,498	5,660	2,661	West Germany 1,656; United Kingdom 576; Italy 481.
Coal	915,016	842,581	731,178	West Germany 412,437; Belgium-Luxembourg 167,107; Netherlands 129,984; Switzerland 85,379.
Coal briquets	29,718	40,868	30,388	Italy 18,501; Switzerland 7,789.
Coke	36,386	57,152	18,568	Switzerland 13,938; Algeria 9,554; Spain 9,449; Italy 8,134; West Germany 8,130.
Gas:				
Natural, including liquid petroleum gas (propane, butane, and other liquid petroleum gases).	287,824	392,147	77,071	Spain 162,227; Portugal 75,297; Belgium-Luxembourg 58,379; United Kingdom 54,395.
Manufactured	37,674	196	196	All to Belgium-Luxembourg.
Lignite, including briquets	21,570	61,174	---	Spain 60,597.
Peat, including briquets	343	488	---	NA.
Petroleum refinery products:				
Gasoline thousand tons	1,491	1,889	571	Switzerland 598; United Kingdom 543; West Germany 433; Libya 47; Sweden 35.
Kerosine do	921	490	128	Switzerland 160; Netherlands 84; Turkey 65; Libya 32; West Germany 31.
Distillate fuel oil do	2,869	3,472	1,851	West Germany 1,199; Switzerland 1,195; Netherlands 584.
Residual fuel oil do	2,760	3,137	1,985	West Germany 1,011; Belgium-Luxembourg 623; Switzerland 511; United Kingdom 381.
Lubricants do	262	244	99	West Germany 41; Algeria 32; Belgium-Luxembourg 30; United Kingdom 18.
Other do	315	349	132	Switzerland 104; West Germany 90; Algeria 47; Belgium-Luxembourg 31.
Total refined products do	8,618	9,581	4,760	West Germany 2,805; Switzerland 2,576; Netherlands 1,090; United Kingdom 1,083.
Chemical derivatives of coal, petroleum, or gas.	77,043	76,886	31,032	United Kingdom 13,356; United States 12,720; Belgium-Luxembourg 11,919; Switzerland 11,011.

NA Not available. r Revised.

[1] Belgium, West Germany, Italy, Luxembourg, and the Netherlands.

[2] Excludes artificial corundum.

[3] Including indium and thallium.

[4] Calculated from quantities reported in kilograms.

[5] Including cast iron and shot, grit, powder, and sponge of iron or steel.

[6] Including wire rod.

[7] Alkali, alkaline earth, and rare earth metals except sodium.

[8] Including synthetic and reconstituted stone but not including diamond.

[9] Not including slate, flint, or industrial limestone.

Table 3.—France: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	Total import 1964	Total import 1965
Metals:		
Aluminum:		
Bauxite	145,844	116,508
Oxide and hydroxide [1]	67,068	19,700
Metallurgical residues	2,897	11,615
Metal including alloys:		
Scrap	2,685	2,165
Ingots	72,438	71,694
Semimanufactures	16,259	19,425
Antimony:		
Ore and concentrates	2,691	1,678
Metal, all forms	2,670	1,737
Arsenic, including anhydride	114	144
Beryllium:		
Ore	381	NA
Metal, all forms ... value, thousands	$69	$180
Bismuth	785	700
Cadmium	578	408
Cobalt:		
Ore	10,392	11,672
Oxide and hydroxide	89	131
Metal, all forms	231	313
Chromium:		
Ore	193,395	224,287
Oxide and hydroxide	1,502	1,870
Metal	1	14
Columbium:		
Ore (including tantalum ore)	150	138
Metal, all forms ... value, thousands	$106	$128
Copper:		
Metallurgical residues	851	112
Matte	203	297
Metal including alloys:		
Scrap	7,145	11,855
Blister and other unrefined	10,808	6,290
Refined	249,826	262,019
Semimanufactures	15,097	15,767
Germanium, gallium, etc.[2]	2	3
Gold:[3]		
Ashes and sweepings ... troy ounces	79,959	345,331
Metal, including alloys ... do	42,375	37,005
Metal, other (temporary imports and reexports) ... do	77,419	110,566
Iron and steel:		
Iron ore ... thousand tons	3,602	3,909
Roasted iron pyrites ... do	40	77
Slag, dust, scale, etc ... do	705	708
Scrap ... do	584	494
Pig iron, spiegeleisen, etc [4] ... do	201	124
Ferroalloys ... do	38	46
Ingots and other primary forms ... do	1,189	943
Semimanufactures:		
Bars, rods, sections [7] ... do	1,249	1,174
Universals, plates, sheets ... do	1,282	1,287
Hoop and strip ... do	278	247
Rails and accessories ... do	31	38
Wire ... do	48	51
Tubes, pipes, fittings ... do	129	137
Rough castings and forgings	828	1,709
Lead:		
Ore	144,090	130,387
Metallurgical residues	578	3,347
Oxides	2,099	2,327
Metals including alloys:		
Scrap	1,448	2,950
Pig	58,160	28,170
Semimanufactures	348	484
Magnesium including alloys:		
Scrap	5	6
Ingots	2,659	1,196
Semimanufactures	121	207
Manganese:		
Ore	791,196	854,728
Oxide	684	1,339
Metal, all forms	613	725
Mercury ... 76-pound flasks	9,921	12,938

See footnotes at end of table.

Table 3.—France: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total import	
	1964	1965
Metals—Continued		
Molybdenum:		
Ore	4,862	4,171
Oxide	4	4
Metal, all forms	75	88
Nickel:		
Metallurgical residues	2	11
Matte	11,258	16,823
Oxide and hydroxide	106	80
Metal including alloys:		
Scrap	1,344	484
Ingots	8,426	8,259
Semimanufactures	2,532	2,120
Platinum and platinum-group: [5]		
Metal troy ounces	157,538	176,989
Ashes and sweepings do	97,384	22,377
Selenium	32	28
Silver: [5]		
Metal, all forms thousand troy ounces	30,170	24,515
Ashes and sweepings do	357	972
Tantalum, all forms	6	9
Tin:		
Oxide long tons	44	8
Metal including alloys:		
Scrap long tons	81	40
Ingots do	11,083	10,042
Semimanufactures do	52	115
Titanium:		
Ore	140,973	94,919
Dioxide	12,935	14,721
Metal, all forms	254	297
Tungsten:		
Ore	1,563	2,188
Trioxide	37	67
Metal, all forms	68	67
Uranium and thorium:		
Uranium ore	1,910	2,239
Thorium ore	1,489	1,404
Metal, including alloys kilograms	2,500	500
Other radioactive materials do	77,300	157,000
Vanadium pentoxide	405	611
Zinc:		
Ore	368,137	332,225
Matte, ashes, residues	9,752	6,957
Dust (blue powder)	3,931	4,038
Oxide	2,256	1,754
Metal including alloys:		
Scrap	18,883	17,209
Slab and ingot (including alloys)	22,141	14,546
Semimanufactures (including alloys)	3,099	2,928
Zirconium:		
Ore	23,059	29,820
Oxide	211	293
Metal	5	102
Other metals [7] value, thousands	$64	$226
Other metallic ores	2,843	2,897
Other metalliferous ash, slag, and residues	81,362	73,417
Nonmetals:		
Abrasives, natural, not elsewhere specified	3,705	2,169
Asbestos	109,541	106,665
Asbestos-cement products	39,314	31,602
Barite, including witherite	67,696	74,442
Borates (natural)	47,181	67,301
Bromine	115	NA
Cement	86,602	94,090
Chalk	14,985	12,775
Clay and clay products:		
Crude:		
Kaolin, including calcined	205,010	209,601
Bentonite	96,383	114,127
Refractory clays	163,517	169,693
Other clays and aluminum silicates	24,278	26,074
Clay and refractory construction materials (bricks, etc.)	340,150	367,117
Corundum:		
Natural, including emery	1,394	4,935
Artificial	1,418	1,569

See footnotes at end of table.

Table 3.—France: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	Total import	
	1964	1965
Nonmetals—Continued		
Cryolite and chiolite, natural	1,730	1,380
Diamond:		
Industrial, except dust ... value, thousands	$4,090	$4,004
Gem. Unset ... do	$17,221	$15,593
Dust and powder ... do	$2,634	$3,014
Diatomite	14,013	7,987
Dolomite, including calcined	184,092	178,233
Earth pigments, including iron oxide	11,925	13,410
Earths, other (pozzolanic, santorin, etc.)	295	103
Feldspar	11,144	15,940
Fertilizer materials:		
Crude:		
Nitrogenous (natural sodium nitrate)	64,916	40,760
Phosphate rock ... thousand tons	2,523	2,870
Potassic salts, crude	40	---
Manufactured:		
Nitrogenous	174,970	128,156
Potassic	64,209	72,788
Phosphatic:		
Basic slag	787,969	736,856
Other	417,354	356,219
Flint (pebbles)	7,580	23,127
Fluorspar	NA	329
Graphite	4,446	5,007
Gypsum and plaster	20,396	22,107
Iodine, crude	NA	400
Lime	94,581	77,833
Limestone for flux, cement, etc	194,424	188,748
Lithium and strontium minerals	1,651	NA
Magnesite, including calcined	35,360	42,962
Mica	5,561	4,808
Precious and semiprecious stones [8] ... value, thousands	$6,459	$6,869
Pumice	37,489	36,679
Pyrite	368,985	350,977
Quartz and quartzite	15,104	17,447
Salt	133,774	117,733
Slate, rough and finished	3,436	13,553
Stone, sand and gravel: [9]		
Dimension stone:		
Unfinished	100,797	121,562
Finished	45,681	74,087
Gravel and other crushed stone ... thousand tons	2,055	2,016
Sand ... do	1,231	1,333
Sulfur, elemental, all grades	214,836	264,236
Talc and steatite	7,756	6,892
Other mineral substances	623,101	313,538
Mineral fuels:		
Asphalt and bitumen, natural	1,655	2,169
Asphalt, worked	835	863
Coal ... thousand tons	14,165	11,929
Coal briquets ... do	775	415
Coke ... do	4,938	4,462
Gas:		
Natural, including liquid petroleum gases	66,633	65,853
Manufactured	115,596	123,004
Lignite and briquets ... thousand tons	546	384
Peat, including briquets ... do	17	19
Petroleum:		
Crude ... do	49,275	58,556
Refined products:		
Gasoline ... do	604	502
Kerosine, including white spirit ... do	20	19
Distillate fuel oil ... do	2,063	1,720
Residual fuel oil ... do	1,302	1,100
Lubricants ... do	29	33
Other ... do	936	531
Total refined products ... do	4,954	3,905
Mineral tar and crude chemicals derived from coal, petroleum, or gas	211,441	209,384

[r] Revised. NA Not available.
[1] Excludes artificial corundum.
[2] Includes gallium, germanian, indium, thallium, rhenium.
[3] Calculated from quantities reported in kilograms.
[4] Includes cast iron and sponge, powder, etc., of iron and steel.
[5] Including wire rod.
[6] From quantity reported in metric tons.
[7] Alkali, alkaline earth, and rare-earth metals including cerium and hafnium.
[8] Including synthetic and reconstituted stone but not including diamond.
[9] Excludes slate, flint, or industrial limestone.

French Guiana

Table 1.—French Guiana: Production and exports of mineral commodities

Commodity	1962	1963	1964	1965	1966
Metals:					
Columbite-tantalite:					
Production kilograms	----	2,282	1,000	850	[e] 450
Exports do	----	2,282	[1] 1,923	[1] 406	[1] 274
Gold:					
Production:					
Native gold troy ounces	NA	6,993	NA	----	NA
Gold content do	5,273	NA	4,832	----	632
Exports:					
Native gold do	6,302	3,601	NA	----	NA
Gold content do	5,369	2,636	NA	----	NA
Apparent average fineness	852	732	NA	----	NA
Nonmetals:					
Clay metric tons	NA	NA	NA	NA	3,500
Sand cubic meters	NA	NA	NA	NA	100,000
Stone do	NA	NA	26,000	NA	52,250

NA Not available.
[1] U.S. imports.

Table 2.—French Guiana: Imports of selected mineral commodities

(Metric tons)

Commodity	1965	1966	Principal sources, 1966
Metals:			
Aluminum, all forms	39	222	France 178.
Copper, all forms	6	9	All from France.
Iron and steel:			
Bars and shapes	1,258	2,361	France 2,269.
Pipe and fittings	299	2,537	Mainly from France.
Plate and sheet	422	493	France 427.
Castings	41	64	All from France.
Lead, all forms	6	9	Do.
Zinc, all forms	4	4	Do.
Nonmetals:			
Cement, lime and other building materials.	11,391	15,859	France 10,715; Venezuela 4,862.
Fertilizer materials: Manufactured	85	23	Mainly from France.
Sand, gravel and stone	14	11	All from France.
Other raw or unfinished mineral products.	351	2,186	Trinidad and Tobago 1,939; France 247.
Mineral fuels:			
Gas, natural and manufactured	337	453	Trinidad and Tobago 314.
Tars, mineral, and raw chemical derivatives.	20	12	Mainly from France.
Petroleum products	13,290	13,770	Trinidad and Tobago 12,788.
Other	10	9	All from France.

Source: European Economic Community, Statistical Office. Overseas Associates, Foreign Trade Statistics, 1966–No. 4. 1967–No. 3.

French Somaliland

Table 1.—French Somaliland: Imports of selected mineral commodities [1]

(Metric tons)

Commodity	1964	1965	Principal sources, 1965
Metals: Iron and steel: Castings and forgings, unworked.	512	1,030	Japan 848; Belgium-Luxembourg 120; France 62.
Nonmetals:			
Cement, lime, and other building materials.	12,427	15,691	U.S.S.R. 11,611; France 1,521; Yugoslavia 1,048.
Nonmetallic minerals, crude, unspecified.	1,101	466	Italy 356; Yemen 83; United Kingdom 16.
Mineral fuels:			
Petroleum:			
Crude and partly refined	1,517	1,694	Non-specified 1,644; Aden 36; France 14.
Refinery products	14,350	14,453	Non-specified 13,774; Netherlands 187; United Kingdom 118.

[1] Source: Statistical Office of the European Communities, No. 8, 1966, pp. 57–65.

Gabon

Table 1.—Gabon: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Gold ---------- troy ounces	16,300	35,719	42,760	37,134	34,466
Manganese, 50–53 percent Mn[2]	203,244	636,587	[r] 959,576	1,280,396	1,273,520
Uranium, concentrate, 20–40 percent U_3O_8	1,161	1,317	1,287	1,591	1,599
Mineral fuels:					
Natural gas, marketed ---- million cubic feet	328	321	353	[r] 397	429
Petroleum, crude -- thousand 42-gallon barrels	5,992	6,446	7,668	9,161	10,484

[r] Revised.

[1] In addition to commodities listed, construction materials such as sand, gravel, and quarried stone are produced, but quantitive data are not available.

[2] Includes pellets of 82–84 percent Mn as follows: 1965–5,789 tons; 1966–5,739 tons.

Table 2.—Gabon: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Gold [1] ---------- troy ounces	39,738	35,205	All to France.
Iron and steel:			
Scrap	[r] 1,859	1,823	Italy [r] 1,817.
Semimanufactures	239	138	Nonspecified 43; France 39; Spanish Guinea 26.
Manganese ore	881,749	1,149,462	United States 689,967; France 191,020; West Germany 153,877.
Uranium, concentrate	1,392	1,521	All to France.
Nonferrous metals, scrap	37	36	Senegal 20; France 10.
Nonmetals:			
Clay construction materials	1	---	
Minerals, crude, undifferentiated	10	---	
Mineral fuels:			
Petroleum:			
Crude	1,068,106	1,281,217	France 1,053,501; Senegal 134,512.
Refinery products	11	12	All to Cameroon.

[r] Revised.

[1] Data from République Gabonaise, Bulletin Mensuel de Statistiques, No. 84, Mars 1966, p. 67.

Source: Except as otherwise noted Statistical Office of the European Communities, Overseas Associates, Foreign Trade Statistics. Gabon, No. 20, 1965, pp. 22–24; No. 7, 1966, pp. 141–145.

Table 3.—Gabon: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals [1]:			
Aluminum	96	107	Cameroon 70; France 22.
Copper	32	41	France 40.
Iron and steel:			
Pig iron and ferroalloys	---	13	All from France.
Semimanufactures, mainly tubes and pipes.	[r] 13,613	15,822	France 14,753.
Lead	10	8	France 7.
Tin long tons	2	2	All from France.
Zinc	10	7	do
Metallic oxides and other compounds	1,198	317	France 288.
Nonmetals:			
Cement and lime	38,548	33,431	France 21,149; Belgium–Luxembourg 10,700.
Clay construction materials	184	213	France 108; West Germany 72.
Fertilizers:			
Mineral	6	---	
Manufactured	27	47	France 38; Belgium–Luxembourg 6.
Sand, gravel, and crushed stone	40	74	France 49; Senegal 25.
Sulfur and pyrite	3	1,997	All from France.
Nonmetallic minerals, crude, n.e.s.	3,833	6,570	France 1,919; Netherlands 1,097; Senegal 1,030.
Nonmetallic mineral manufactures	433	47	France 31; West Germany 9.
Mineral fuels:			
Coal, coke, and briquets	22	36	All from France.
Gas, natural and manufactured	587	623	France 420; Belgium–Luxembourg 192.
Petroleum, refinery products	63,751	66,526	Venezuela 29,728; Netherlands Antilles 20,917; France 3,435.
Mineral tar and other crude chemicals from coal, oil, and gas distillation.	8	9	All from France.

[r] Revised.

[1] All forms, mainly semimanufactures, unless otherwise specified.

Source: Statistical Office of the European Communities, Overseas Associates, Foreign Trade Statistics Gabon, No. 20, 1965, pp. 13–16; No. 7, 1966, pp. 123–140.

East Germany

Table 1.—East Germany: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Alumina	59,820	61,072	62,000	[e] 62,000	[e] 62,000
Aluminum [e]	45,000	45,000	45,000	50,000	[e] 50,000
Cadmium kilograms	3,000	5,000	10,000	10,000	10,000
Copper ore thousand tons	1,700	1,626	1,563	1,433	[e] 1,500
Iron and steel:					
Iron ore do	1,642	1,661	1,634	1,630	[e] 1,600
Pig iron do	2,075	2,150	2,260	2,338	2,448
Steel ingots do	[r] 4,090	[r] 4,093	[r] 4,310	[r] 4,366	4,080
Rolled products do	2,798	2,813	2,900	2,986	NA
Nonmetals:					
Cement do	5,432	5,458	5,767	6,087	6,456
Fertilizers:					
Nitrogenous (N content) do	338	340	334	348	NA
Phosphatic (P_2O_5 content) do	181	196	198	232	NA
Gypsum, calcined	228,132	214,329	223,194	217,298	[e] 218,000
Lime [2] thousand tons	3,344	3,457	3,673	3,441	[e] 3,500
Potash, crude (K_2O content) do	1,752	1,845	1,857	1,926	2,000
Salt do	2,040	2,078	2,078	1,890	[e] 2,000
Sulfur (content of pyrite)	42,000	44,000	42,000	44,000	[e] 42,000
Sulfur, elemental, recovered	120,462	119,874	125,056	124,807	[e] 125,000
Mineral fuels:					
Coal:					
Bituminous and anthracite thousand tons	2,575	2,483	2,340	2,212	[e] 2,200
Brown do	246,992	254,219	256,926	251,301	[e] 249,600
Brown-coal briquets do	59,727	60,256	61,504	60,380	[e] 60,500
Coke from:					
Bituminous coal [3] do	3,122	3,262	3,398	3,209	[e] 3,500
Brown coal [4] do	7,661	7,568	7,608	7,342	[e] 7,500
Manufactured gas million cubic feet	122,255	125,475	122,290	[r] 120,231	NA
Peat [e] thousand tons	500	500	500	500	500
Petroleum:					
Refinery products:					
Gasoline thousand tons	1,268	1,316	1,461	1,604	NA

[e] Estimate. [r] Revised.

[1] In addition to reported commodities, East Germany was a known producer of the following (figures represent approximate order of magnitude): Smelter copper 20,000; mine lead 10,000; smelter lead 25,000; nickel 100; silver 4.8 million troy ounces; mine tin 1,000; smelter tin 1,200; mine zinc 9,000; smelter zinc 10,000; fluorspar 85,000; and peat 500,000.

[2] All types including industrial.

[3] Includes gas coke.

[4] Includes high-temperature coke.

Source: Statistisches Jahrbuch der Deutschen Demokratischen Republik 1966 (Statistical Yearbook of the German Democratic Republic for 1966), Berlin 1966, 580 pp.

Table 2.—East Germany: Exports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destination 1965
Metals:			
Aluminum:			
Scrap	124	[2] 164	All to United Kingdom.
Metals and alloys	4,662	[2] 4,445	All to United Kingdom.
Copper:			
Metal, refined	813	471	All to United Kingdom.
Metal and alloys worked	571	NA	
Iron and steel:			
Scrap	15,195	NA	
Pig iron and ferroalloys	270,744	NA	
Steel, primary forms	2,353	---	
Semimanufactures	31,611	NA	
Lead and alloys, unwrought	49	---	
Nickel:			
Matte and speiss	1,453	NA	
Metal and alloys	18	NA	All to United Kingdom.
Zinc and alloys, unwrought	300	[2] 426	All to United Kingdom.
Nonmetals:			
Cement	493	379	West Germany 71.
Clay, Kaolin	62,171	69,983	
Fledspar, fluorspar	4,580	NA	
Fertilizers:			
Potassic salts, raw, (K_2O content) thousand tons	1,218	1,291	Czechoslovakia 353; Poland 346.
Potassic, manufactured, bulk thousand tons	729	NA	
Nitrogenous, manufactured, bulk do	100	NA	
Gypsum, burned	50,744	60,730	Undisclosed.
Salt thousand tons	107	---	
Sulfur	9,220	[2] 6,607	Austria 5,687; Finland 925.
Mineral fuels:			
Coal:			
Bituminous	2,749	---	
Lignite-briquet thousand tons	6,799	5,962	West Germany 3,356; Poland 637; Hungary 522.
Coke, all kinds do	121	124	Undisclosed.
Petroleum:			
Refinery products:			
Gasoline thousand tons	424	473	West Germany 253.
Kerosine do	200	NA	
Diesel fuel do	442	676	West Germany 469.
Heating oil do	252	269	Austria 56.
Mineral waxes do	16	18	Undisclosed.
Carbon black	1,610	NA	

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[1] Because East Germany publishes only limited data on foreign trade in minerals, this table has been compiled from several sources and figures may represent only partial trade. Information except as noted is from Statistisches Yahrbuch der Deutchen Demokratischen Republik–1966. (Statistical Yearbook of the German Democratic Republic 1966) Berlin 1966, 608 pp.

[2] Source: Country by commodity series for 1965–United States Department of Commerce, Washington, D. C.

Table 3.—East Germany: Imports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Metals:			
Aluminum:			
Bauxite	327,169	250,106	Hungary 99,889 [6]; Yugoslavia 99,073.[4]
Alumina	42,188	46,183	Hungary [2] 19,000; Yugoslavia 805.[4]
Ingots	65,700	87,300	All from the U.S.S.R.
Semimanufactures [3]	6,800	9,500	All from the U.S.S.R.
Cadmium, metal	209	687	All from the U.S.S.R.
Chromite, Cr_2O_3 content	30,269	30,082	U.S.S.R. 21,000.
Copper:			
Metal [3]	40,300	42,400	All from the U.S.S.R.
Alloys	2,000	2,000	All from the U.S.S.R.
Iron and steel:			
Iron ore ..... thousand tons	[r] [2] 2,756	2,804	All from the U.S.S.R.
Scrap ..... do	159	153	All from the U.S.S.R.
Pig iron and ferroalloys ..... do	792	[3] 745	All from the U.S.S.R.
Semimanufactures	1,841	2,273	U.S.S.R. 1,850.
Lead	36,200	38,100	All from the U.S.S.R.
Magnesium	1,951	2,555	All from the U.S.S.R.
Manganese ore ..... thousand tons	175	173	All from the U.S.S.R.
Nickel	2,400	1,600	All from the U.S.S.R.
Zinc	32,000	29,800	All from the U.S.S.R.
Nonmetallics:			
Asbestos	25,010	28,300	All from the U.S.S.R.
Borates, natural crude	7,400	NA	
Clay, refractory	2,863	NA	
Fertilizers:			
Raw:			
Apatite ore	19,900	---	
Apatite concentrates	761,300	783,700	All from the U.S.S.R.
Manufactured:			
Nitrogenous fertilizers, N content	[r] [2] 70,512	134,584	
Phosphatic fertilizers, P_2O_5 content	[r] 94,276	88,125	
Graphite	3,400	1,800	All from the U.S.S.R.
Mineral fuels:			
Coal:			
Anthracite ..... thousand tons	190	159	All from the U.S.S.R.
Bituminous [2] ..... do	10,411	9,464	U.S.S.R. 5,835; Poland 2,025 [5]; Czechoslovakia 1,010.[2]
Brown coal ..... do	6,495	5,218	Poland 5,199.[5]
Coke [2] ..... do	3,309	3,205	
Gas, manufactured, million cubic feet	1,634	1,291	Undisclosed.
Petroleum:			
Crude [2] ..... thousand tons	4,260	5,132	U.S.S.R. 4,922; Egypt [2] 115.
Refinery products:			
Gasoline ..... thousand tons	187	130	All from the U.S.S.R.
Diesel fuel ..... do	235	336	All from the U.S.S.R.
Heating oils ..... do	29	NA	
Lubricants ..... do	44	15	All from the U.S.S.R.
Petroleum coke ..... do	12	11	All from the U.S.S.R.

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[r] Revised.

[1] Because East Germany publishes only limited data on foreign trade in minerals, this table has been compiled from several sources. Information except as noted is from Vneshnaya Torgovlya za 1964 god (Foreign Trade of the U.S.S.R. for 1964). Moscow 1965, 194 pp.

[2] Source: Statistisches Jahrbuch der Deutchen Demokratischen Republik–1966 (Statistical Yearbook of the German Democratic Republic 1966) Berlin, 608 pp.

[3] Including alloyed.

[4] Source: Statistika Spolyne Trgovine S.F.R. Yugoslavije za 1965 godinu (Statistics of Foreign Trade of S.F.R. Yugoslavia for 1965) Belgrade, 526 pp.

[5] Source: Statystyka Handlu Zagranicnego 1964 (Statistics of Foreign Trade 1964) Warsaw 1965, 230 pp.

[6] Source: Statistikai Evkonyv 1965 (Statistical Yearbook 1965) Budapest 1965.

Federal Republic of Germany

Table 1.—Federal Republic of Germany: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Bauxite	4,657	4,331	4,156	3,893	[e] 3,800
Alumina and aluminum hydroxide, aluminum oxide content thousand tons	517	547	[r] 612	657	603
Metal:					
Unalloyed:					
Primary do	178	209	220	234	244
Remelted, including scrap do	19	16	20	20	20
Alloyed, including some remelted scrap do	123	141	169	183	177
Semimanufactures do	246	255	316	319	328
Crude castings do	120	130	159	179	169
Arsenic (exports)	68	56	38	71	377
Bismuth	131	126	175	[e] 125	NA
Cadmium	254	223	320	328	356
Chromium	NA	NA	[e] 400	[e] 300	[e] 500
Cobalt	1,646	1,508	[1] 1,445	[1] 1,356	1,109
Copper and copper alloys:					
Copper in ores [2]	1,998	2,282	[r] 1,596	[r] 1,074	1,098
Blister copper thousand tons	69	67	68	NA	NA
Refined, unalloyed:					
Electrolytic do	238	235	[r] 232	247	255
Refined from scrap do	70	68	[r] 104	110	120
Copper alloys	35	35	39	42	33
Semimanufactures thousand tons	577	593	760	769	684
Crude castings, including alloys	81,800	78,186	91,160	93,210	74,905
Gold (smelter) thousand troy ounces	137	127	109	80	102
Iron and steel:					
Iron ore thousand tons	16,643	12,898	11,613	10,847	9,467
Spiegeleisen and blast furnace ferromanganese thousand tons	275	290	287	280	296
Pig iron do	23,976	22,619	26,895	26,710	25,117
Electric furnace ferroalloys do	112	105	131	NA	148
Steel ingots and castings do	32,563	31,597	37,339	36,821	35,316
Of which castings do	670	575	637	650	3,915
Finished steel do	21,589	20,991	24,953	24,837	24,244
Lead and lead alloys:					
Lead in ore do	50	53	49	50	55
Smelter:					
Primary do	[r] 127	[r] 110	[r] 108	104	110
Secondary do	68	90	116	123	138
Alloys, unwrought do	22	17	21	21	22
Semimanufactures and castings	52	48	57	55	55
Magnesium and magnesium alloys:					
Unwrought	3,288	3,187	3,141	2,187	1,516
Semimanufactures	257	373	538	522	488
Castings	30,387	31,614	38,499	37,994	36,472
Mercury 76-pound flasks	725	1,595	1,740	[e] 2,176	[e] 2,030
Molybdenum	127	115	208	262	[e] 230
Nickel, including powder	3,223	1,935	761	305	---
Platinum troy ounces	1,543	1,736	2,186	1,479	1,190
Silver:					
In ores thousand troy ounces	1,926	2,067	2,063	[r] 2,022	1,983
Smelter do	15,371	12,003	11,580	10,409	13,877
Silicon (pure) kilograms	[e] 600	[e] 1,250	[e] 3,000	[e] 6,000	NA
Tin and tin alloys:					
Refined unwrought [3] long tons	2,321	2,212	2,274	2,505	2,473
Alloys, unwrought and solder do	16,944	18,242	19,453	20,975	NA
Tungsten, minimum 90 per cent tungsten	550	532	649	825	689
Zinc and zinc alloys:					
Zinc in zinc ore	87	93	96	95	98
Zinc in pyrite	26	16	15	14	8
Metal:					
Primary thousand tons	130	105	107	108	123
Secondary do	60	68	69	81	91
Alloys do	38	39	59	63	66
Semimanufactures do	76	70	85	83	74
Castings	34	35	45	49	48

See footnotes at end of table.

Table 1.—Federal Republic of Germany: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals:					
Barite...thousand tons	465	423	443	451	461
Basalt lava and lava sand...do	4,112	4,968	5,216	NA	NA
Bromine and bromine compounds	2,145	2,139	2,236	2,945	NA
Calcite...thousand tons	36	[r] 37	[r] 42	46	NA
Cement:					
Portland...do	20,739	21,519	24,789	25,435	25,782
Iron portland and blast furnace slag...do	6,809	6,831	7,881	7,865	8,089
Other cement and mortar...do	1,046	868	962	833	867
Chalk...do	74	72	94	100	109
Clays:					
Refractory (exclusive of Klebsand)...do	4,473	4,330	4,370	4,678	NA
Kaolin (marketable)...do	383	388	409	400	365
Bleaching...do	345	365	399	414	NA
Other (Schieferton)...do	NA	71	89	87	NA
Corundum, artificial...thousand tons	64	58	64	75	74
Diatomaceous and similar earths...do	107	89	99	108	98
Feldspar...do	274	[r] 278	[r] 305	[r] 318	320
Fluorspar...do	106	[r] 105	[r] 90	83	92
Graphite...do	12	[r] 13	13	14	13
Gypsum:					
Crude...do	961	1,059	1,206	1,235	1,305
Calcined...do	988	942	1,010	1,029	916
Iodine and iodine compounds	132	118	119	NA	NA
Lime:					
Burnt, hydraulic and burnt dolomite thousand tons	9,698	9,775	10,814	10,627	10,401
Other, ground	2,033	2,371	2,918	3,153	3,231
Limestone, crude	48,858	49,298	54,585	52,754	55,750
Of which for sale	8,335	7,775	9,321	8,161	9,105
Mica	9	5	8	12	[e] 12
Mineral pigments...thousand tons	10	11	10	10	NA
Phosphates:					
Superphosphates, phosphorus pentoxide content...thousand tons	52	53	68	81	(4)
Ground Thomas slag...do	399	431	436	433	[e] 446
Other...do	67	74	105	125	144
Total...do	518	558	609	639	[e] 590
Potash:					
Crude salts...do	18,413	18,537	20,588	22,209	21,483
Potassium monoxide content	2,264	2,283	2,553	2,740	2,645
Marketable potash salts, potassium monoxide content...do	[r] 1,940	1,948	2,201	2,385	[e] 2,300
Pumice:					
Crude and washed	10,197	11,161	10,321	9,333	9,660
Marketable...do	5,707	6,390	5,821	5,096	5,390
Pyrite, marketable:					
Gross weight...do	386	[r] 354	424	439	450
Sulfur content...do	167	[r] 160	187	197	206
Quartzite...do	295	272	276	281	317
Salt:					
Rock (marketable)...do	4,560	5,234	5,404	[r] 5,105	5,889
Other (marketable)...do	346	363	399	[r] 438	567
Sand and gravel	124,643	132,358	[4] 156,370	[4] 161,304	149,720
Sand, industrial:					
Moulding sand...do	858	781	879	930	1,067
Quartz sand (ground)...do	603	906	904	851	809
Quartz sand (unground) and glass sand do	4,065	3,858	4,870	5,127	5,154
Other (Klebsand)...do	196	193	177	159	155
Slate: [5]					
Roofing and for office and industry...do	51	50	43	38	34
Splittings and ground [6]...do	58	59	82	86	85
Stone:					
Crushed...do	72,389	79,411	85,847	87,862	93,158
Building...thousand cubic meters	[r] 201	217	[r] 249	257	250
Sulfur, elemental...thousand tons	91	86	78	77	84
Talc, including talc schist...do	28	24	30	31	31
Trass and tuff...do	78	5	4	4	NA
Mineral fuels:					
Carbon black...do	91	100	122	125	140
Bituminous coal and anthracite...do	[r] 141,899	142,116	142,201	135,077	12,910
Coal briquets [7]...do	[r] 5,663	[r] 6,353	[r] 5,409	[r] 4,544	4,005
Lignite...do	101,251	106,669	110,945	101,907	98,089
Lignite briquets...do	[r] 15,770	15,834	15,356	12,682	11,829
Pech coal...do	1,760	1,841	1,869	1,735	1,160

See footnotes at end of table.

Table 1.—Federal Republic of Germany: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Mineral fuels—Continued					
Coke:					
At mines .... do	36,054	35,213	37,394	37,903	34,990
At steelworks .... do	7,144	6,682	5,956	5,391	4,700
At gasworks .... do	4,960	[r] 4,890	4,912	4,153	3,576
From lignite .... do	600	600	596	578	543
Peat (for fuel use only) .... do	704	759	701	439	435
Gas:					
Natural,[8] and refinery gas, liquefied million cubic meters ..	9,017	11,234	15,731	NA	NA
Blast furnace gas .... do	15,066	13,435	14,840	14,005	12,230
Generator and water gas .... do	5,247	4,878	4,309	3,649	3,525
Coke oven gas .... do	22,993	22,536	22,607	19,670	18,215
Other .... do	616	634	695	NA	NA
Total .... do	52,936	52,546	58,182	NA	NA
Petroleum:					
Crude .... thousand tons ..	6,776	7,383	7,673	7,884	7,868
Refinery products:					
Liquefied petroleum gas .... do	853	1,102	1,380	1,476	1,605
Motor gasoline .... do	7,262	8,176	9,000	9,785	10,324
Other gasolines .... do	865	1,131	1,551	1,844	239
Jet fuel and kerosine .... do	630	639	677	686	819
Diesel oil .... do	6,155	7,246	6,788	6,910	8,122
Fuel oil .... do	19,312	23,046	31,694	37,509	43,853
Lubricants .... do	564	554	600	608	608
Greases .... do	18	17	22	24	22
Bitumen .... do	1,804	2,304	2,821	3,235	3,503
Petroleum coke .... do	389	430	444	422	451
Refinery gas .... do	1,200	1,470	1,880	2,542	3,143
Other .... do	252	322	414	518	251
Total	39,304	46,437	57,271	65,558	72,940

[e] Estimate. [r] Revised. NA Not available.

[1] Including West Berlin.

[2] Includes copper content of pyrites.

[3] Includes secondary.

[4] Included with "other."

[5] Excludes West Berlin 1961–63; includes West Berlin 1964–65.

[6] Exclusive of slate recovered from mine dumps.

[7] Includes briquets produced by independent plants as follows in thousand tons: 1961, 268; 1962, 276; 1963, 261; 1964, 96; 1965, 26.

[8] Associated and unassociated.

Table 2.—Federal Republic of Germany: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 destinations	
			EEC[1]	Principal destinations
Metals:				
Aluminum:				
Bauxite	846	1,344	398	Austria 589; Belgium-Luxembourg 169.
Alumina	75,390	78,691	NA	NA.
Aluminum hydroxide	35,429	38,178	NA	NA.
Metal and alloys:				
Scrap	1,144	856	810	Italy 514; Belgium-Luxembourg 155; France 81
Unwrought	9,837	10,166	8,122	Netherlands 3,913; Belgium-Luxembourg 2,756; France 1,010.
Semimanufactures	57,565	59,642	25,842	Belgium-Luxembourg 7,975; France 7,864; Netherlands 7,468; United States 5,808; Switzerland 5,238.
Antimony:				
Oxides	445	NA	NA	NA.
Metal, all forms	230	174	NA	NA.
Arsenic oxides	38	71	NA	NA.
Bismuth metal, all forms	59	72	NA	NA.
Cadmium:				
Oxides and hydroxides	9	NA	NA	NA.
Metal, all forms	53	111	NA	NA.
Chromium:				
Chromite	1,521	1,746	1,206	France 517; Sweden 283; Belgium-Luxembourg 267.
Oxides and hydroxides	5,908	6,320	NA	NA.
Metal, all forms	53	40	NA	NA.
Cobalt:				
Oxides and hydroxides	24	46	17	Bulgaria 20; Italy 12; Yugoslavia 5; France 4.
Metal, all forms	789	636	NA	NA.
Copper:				
Ore, concentrate and matte	---	5,075	1,051	Poland 4,005; Belgium-Luxembourg 1,051.
Oxides and hydroxides	1,065	NA	NA	NA.
Metal and alloys:				
Scrap	18,608	31,926	25,958	Belgium-Luxembourg 11,525; Italy 7,868; Netherlands 5,161.
Unwrought:				
Blister	373	872	343	Spain 396; France 193; Belgium-Luxembourg 134.
Refined, unalloyed	76,713	102,875	NA	NA.
Master alloys	174	182	NA	NA.
Other alloys	992	1,524	NA	NA.
Semimanufactures	78,052	70,868	21,163	United States 18,227; Netherlands 13,864; Switzerland 4,832; Sseden 4,295.
Gold and alloys:				
Bullion ... thousand troy ounces	241	317	NA	NA.
Wrought ... do	100	153	NA	NA.
Iron and steel:				
Ore and concentrate:				
Roasted pyrites ... thousand tons	14	38	26	Belgium-Luxembourg 18; United Kingdom 10.
Other ... do	290	279	11	Austria 263.
Scrap ... do	1,341	2,010	1,961	Italy 1,852; France 64.
Pig iron, including cast iron ... do	647	504	303	Italy 173; Belgium-Luxembourg 86; United States 62.
Sponge iron, powder, and shot ... do	8	10	3	Netherlands 2; Switzerland 2.
Spiegeleisen ... do	10	9	7	Belgium-Luxembourg 5.5; Austria 2.5; Italy 1.
Ferroalloys:				
Ferromanganese ... do	62	56	6	United States 27; Hungary 15.
Other ... do	13	17	6	United States 3; Netherlands 3; Austria 2.
Primary forms:				
Ingots ... do	150	111	103	France 102; Belgium-Luxembourg 11.
Blooms, billets and slabs ... do	842	996	413	Spain 298; France 292; Switzerland 67; Argentina 62.
Coils for rerolling ... do	468	516	290	Italy 189; United States 162; France 90.
Semimanufactures:				
Wire rod ... thousand tons	516	546	198	United States 150; France 93; Netherlands 52; Belgium-Luxembourg 42.
Other bars and rods ... do	1,100	1,182	658	France 381; Netherlands 210; United States 111; Switzerland 70; Denmark 68.
Sections ... do	1,074	1,241	477	France 215; Netherlands 182; United States 131; Iran 87; Switzerland 79.
Plates and sheets:				
Heavy ... do	1,184	1,586	630	France 391; Netherlands 165; United States 155; Sweden 123.
Medium ... do	133	149	60	France 22; Denmark 18; Netherlands 17; Spain 17; Belgium-Luxembourg 15.

See footnotes at end of table.

Table 2.—Federal Republic of Germany: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 destinations	
			EEC[1]	Principal destinations
Metals—Continued				
Iron and steel—Continued				
Semimanufacturers—Continued				
Platee and sheets—Continued				
Thin uncoated do	841	1,037	349	United States 237; France 143; Belgium-Luxembourg 82; Italy 76; Spain 69.
Tinned do	142	141	40	France 22; Spain 16; Portugal 14; Netherlands 11.
Other coated do	73	106	36	Sweden 15; Italy 12; France 10; Switzerland 10; Denmark 9; Netherlands 9.
Hoop and strip do	440	448	220	Netherlands 99; France 96; Switzerland 33.
Railway track and accessories do	134	162	58	Netherlands 36; Rep. of South Africa 23; Italy 17; Switzerland 15.
Wire do	189	191	59	France 35; United States 29; Netherlands 18; Switzerland 9; Denmark 8; Rumania 8.
Tubes, pipes, fittings do	1,040	1,140	327	Netherlands 214; Sweden 92; U.S.S.R. 75; France 73; Switzerland 65.
Castings and forgings, rough do	23	21	8	Switzerland 5; Netherlands 4; Belgium-Luxembourg 3; Norway 3.
Lead:				
Ore and concentrate	956	7,029	7,029	Belgium-Luxembourg 7,029.
Oxides	7,694	6,786	2,957	Netherlands 1,713; France 1,003; Denmark 480; Czechoslovakia 441.
Metal and alloys:				
Scrap	9,363	14,874	14,663	Italy 10,186; Belgium-Luxembourg 3,067; Netherlands 1,334.
Unwrought	21,592	12,823	14,917	Netherlands 3,784; Switzerland 3,004; United States 1,572; Belgium-Luxembourg 1,371.
Semimanufactures	3,917	5,519	2,517	Belgium-Luxembourg 1,673; Switzerland 563; Italy 535; Sweden 473; Finland 368.
Magnesium:				
Oxides and hydroxides	1,904	2,278	NA	NA.
Metal and alloys:				
Scrap	892	1,132	876	Italy 576; Belgium-Luxembourg 222; United States 176.
Unwrought and semimanufacture	135	133	53	Sweden 29; France 26; Netherlands 22.
Manganese:				
Ore and concentrate	7,325	9,146	4,434	Belgium-Luxembourg 2,555; Denmark 1,422; Netherlands 722; Sweden 695.
Oxides and peroxides	108	137	55	France 33; Belgium-Luxembourg 22.
Metal, all forms	2,152	2,631	NA	NA.
Mercury:				
Oxides	7	NA	NA	NA.
Metal 76-pound flasks	1,349	1,769	928	Netherlands 841; United States 551.
Molybdenum metal, all forms	81	84	55	France 51; Japan 6; Sweden 5; Switzerland 5.
Nickel:				
Matte and speiss	8	NA	NA	NA.
Metal and alloys:				
Scrap	819	1,021	464	Finland 300; United Kingdom 200; Netherlands 198; France 189.
Unwrought	276	192	137	Netherlands 67; Belgium-Luxembourg 37; Austria 31.
Semimanufactures	4,376	5,128	2,223	Netherlands 1,308; China, Mainland 845; France 391; Italy 334.
Platinum-group metals, all forms thousand troy ounces	174	332	NA	NA.
Silicon	41	33	NA	NA.
Silver:				
Ashes, residues, scrap	3	5	5	All to Belgium-Luxembourg.
Metal and alloys:				
Unwrought thousand troy ounces	18,066	15,750	NA	NA.
Semimanufactures do	6,702	8,734	NA	NA.
Tantalum metal, all forms	4	5	4	France 3.
Tin:				
Ore and concentrate long tons	84	67	14	United States 53; Netherlands 14.
Oxides do	443	311	120	Italy 69; Spain 52; Netherlands 38; Poland 25.
Metal and alloys:				
Scrap do	59	78	52	Netherlands 52; United Kingdom 25.
Unwrought do	1,478	1,582	976	France 515; Denmark 344; United Kingdom 190.
Semimanufactures do	120	168	85	Belgium-Luxembourg 53.
Titanium oxides	55,687	32,749	10,378	Norway 6,024; United States 4,346; Italy 3,307; France 2,708.

See footnotes at end of table.

Table 2.—Federal Republic of Germany: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 destinations	
			EEC[1]	Principal destinations
Metals—Continued				
Tungsten:				
Ore and concentrate	110	161	---	Sweden 77; Korea, Republic 50; United Kingdom 34.
Metal, all forms	250	264	39	Sweden 93; United States 87; France 30; Switzerland 24.
Vanadium metal, all forms kilograms	500	500	NA	NA.
Zinc:				
Ore and concentrate	44,201	46,286	28,674	Netherlands 14,097; United Kingdom 12,112; France 12,074.
Oxides and peroxides	7,279	7,509	1,607	Sweden 944; Netherlands 923; Switzerland 738; France 509; Rumania 504; Austria 482.
Metal and alloys:				
Scrap	2,725	4,236	4,134	Italy 1,904; France 1,120; Netherlands 1,038
Zinc dust (blue powder)	2,086	1,846	712	Netherlands 583; Czechoslovakia 541; Hungary 325.
Unwrought	21,501	13,429	5,139	Switzerland 3,928; Belgium-Luxembourg 2,405; Netherlands 2,163.
Semimanufactures	5,549	5,086	1,175	Netherlands 605; Denmark 565; Sweden 536 Switzerland 402.
Zirconium metal, all forms	9	7	NA	NA.
Other:				
Metallic ores and concentrates, n.e.s.	2,433	1,688	NA	NA.
Metalliferous nonferrous waste, n.e.s.	92,033	71,776	54,792	Netherlands 27,061; Belgium-Luxembourg 20,218; Sweden 8,625.
Oxides and hydroxides of barium and strontium	943	824	NA	NA.
Metals:				
Alkali, alkaline earth, rare-earth metals	2,894	3,292	NA	NA.
Arsenic and tellurium	5	5	NA	NA.
Boron and nitrogen	1,466	1,963	NA	NA.
Columbium and tantalum	97	155	NA	NA.
Selenium and phosphorus	4,479	6,919	NA	NA.
Uranium and thorium kilograms	100	700	100	All to West Europe.
Ferrocerium and other pyrophoric alloys	88	171	NA	NA.
Other kilograms	2,500	2,600	NA	NA.
Nonmetals:				
Abrasives:				
Natural:				
Industrial diamonds thousand carats	75	45	NA	NA.
Dust and powder of gem stones, including synthetic stones do	51	80	NA	NA.
Diatomite and other siliceous earths	4,573	5,963	2,836	Netherlands 2,055; United Kingdom 724; Austria 649.
Pumice and other natural abrasives thousand tons	639	593	589	Netherlands 405; Belgium-Luxembourg 172.
Manufactured (grinding stones) tons	7,317	7,585	2,809	Netherlands 846; France 768; Italy 742; Switzerland 672.
Artificial:				
Corundum	19,327	21,368	NA	NA.
Silicon carbide	6,180	7,038	NA	NA.
Boron materials:				
Crude, excluding brine products	7	112	NA	NA.
Boric oxide and acid	83	77	NA	NA.
Cement, portland, hydraulic, and other types thousand tons	1,025	1,397	817	Netherlands 810; United Kingdom 329.
Chalk, crude	809	1,066	579	Netherlands 521.
Clays and clay products:				
Crude:				
Kaolin thousand tons	57	55	849	Netherlands 415; Belgium-Luxembourg 158; France 142; Italy 134.
Fire clay thousand tons	319	359		
Andalusite, dinas and other do	547	602		
Products: Construction materials:				
Refractory thousand tons	343	345	175	France 70; Belgium-Luxembourg 52; Italy 32; Sweden 28.
Nonrefractory do	270	304	200	France 98; Netherlands 68; Austria 29.
Diamonds and other gem stones:				
Diamond, except powder and dust, crude or rough cut thousand carats	30	40	NA	NA.
Other worked do	130	115	NA	NA.
Other precious or semiprecious:				
Crude or rough cut kilograms	34,658	47,894	NA	NA.
Other do	21,718	23,701	NA	NA.

See footnotes at end of table.

Table 2.—Federal Republic of Germany: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 destinations	
			EEC[1]	Principal destinations
Nonmetals—Continued				
Dolomite, crude and calcined	73,896	90,596	82,785	Netherlands 59,831; Belgium-Luxembourg 13,144; France 9,647.
Feldspar	12,118	11,762	NA	NA.
Fertilizer materials:				
Crude, natural:				
Phosphatic	43,238	34,624	34,620	Austria 33,917.
Potassic	94,400	86,999	71,315	Netherlands 39,122; Belgium-Luxembourg 31,705; United Kingdom 15,217.
Organic, including guano	3,878	---	---	
Manufactured:				
Nitrogenous thousand tons	1,577	1,359	127	Spain 214; United Kingdom 171; Belgium-Luxembourg 113; Denmark 66.
Phosphatic:				
Basic slag do	354	286	230	France 192; Netherlands 38; Austria 38.
Other do	20	26	3	Ireland 7; Chile 4; Denmark 3.
Potassic do	1,473	1,916	506	Belgium-Luxembourg 286; Denmark 192; Poland 191; United Kingdom 177; Netherlands 174.
Mixed do	429	453	99	France 84; Malaysia 35; Spain 26; Denmark 26; Indonesia 24.
Ammonia, anhydrous do	80	76	25	Norway 33; Netherlands 21; Switzerland 9; Poland 7.
Fluorspar	12,314	10,598	NA	NA.
Graphite, natural, crude or ground	6,694	7,758	2,090	United States 2,186; Italy 1,475; United Kingdom 560; France 441.
Gypsum and limestone:				
Gypsum and plasters thousand tons	267	250	189	Netherlands 137; Belgium-Luxembourg 33; France 18; Sweden 18.
Limestone, excluding dimension stone do	47	42	40	Netherlands 37.
Lime, hydraulic or slaked do	359	378	352	Netherlands 327; Switzerland 21.
Magnesite, crude and calcined	8,262	5,631	4,942	Netherlands 2,380; France 2,295.
Mica:				
Crude, powder and splittings	553	483	---	Switzerland 295; Spain 48.
Worked, including agglomerated splittings	126	129	38	Denmark 34; Italy 19; Netherlands 11.
Pigments:				
Earth colors, natural	3,492	3,389	1,726	Belgium-Luxembourg 772; Switzerland 497; Netherlands 446; Sweden 347.
Iron oxides and hydroxides thousand tons	85	98	47	France 31; United Kingdom 11.
Salt do	871	961	442	Belgium-Luxembourg 413; Sweden 177; Denmark 110; Brazil 69.
Sodium and potassium compounds, n.e.s.:				
Caustic soda thousand tons	138	120	65	Netherlands 54; Brazil 13; Belgium-Luxembourg 8; Denmark 6.
Caustic potash and peroxides of sodium potassium.	12,302	12,369	2,006	U.S.S.R. 5,000; Switzerland 1,700; Sweden 1,126; Netherlands 1,055.
Stone, sand and gravel, n.e.s.:				
Dimension stone:				
Unworked and partly worked:				
Marble and other calcareous thousand tons	4	7	6	Belgium-Luxembourg 5; Netherlands 1.
Slate do	70	157	147	Netherlands 145.
Granite, porphyry, other do	229	398	392	Netherlands 375; Belgium-Luxembourg 16.
Worked, all types including paving blocks do	42	32	27	Netherlands 17; Belgium-Luxembourg 8.
Gravel and crushed rock, including macadam do	6,658	7,484	5,459	Netherlands 4,734; Belgium-Luxembourg 1,703; Switzerland 929.
Grinding stones and wheels	7,317	7,585	NA	NA.
Quartz and quartzite, crude and partly worked thousand tons	45	54	32	Austria 13; Belgium-Luxembourg 10; Italy 9; Netherlands 7.
Sand, excluding metal-bearing do	1,516	2,316	1,996	Netherlands 1,811; Switzerland 241; Belgium Luxembourg 93.
Sulfur and pyrite:				
Pyrite	33	82	---	Austria 34.
Elemental, excluding colloidal and precipitated.	24,902	25,883	2,415	Austria 4,274; Indonesia 3,822; Denmark 2,468; Pakistan 1,660.
Other elemental	1,210	1,219	177	Netherlands 208; United Kingdom 192; Switzerland 141; Austria 69.
Sulfur dioxide	2,762	2,198	---	Austria 771; Switzerland 600; Sweden 455.
Sulfuric acid	75,298	50,893	22,738	Netherlands 26,142; Austria 21,066.

See footnotes at end of table.

Table 2.—Federal Republic of Germany: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 destinations	
			EEC[1]	Principal destinations
Nonmetals—Continued				
Talc, soapstone, steatite	1,215	1,220	249	Switzerland 305; Sweden 232; Portugal 120.
Vermiculite and mineral wool	12,542	14,202	NA	NA.
Other nonmetallic materials:				
Bromine, fluorine, iodine in pure form	117	427	NA	NA.
Meerschaum, amber, jet	3	1	---	Denmark 1.
Slag and other nonmetalliferous waste from metallurgical operations:				
Derived from iron and steel manufacture thousand tons	1,108	1,171	1,161	Netherlands 825; France 273.
Other do	286	362	341	Netherlands 300; France 36.
Mineral substances, n.e.s. do	340	323	NA	NA.
Mineral fuels:				
Asphalt and bitumen, natural	2,088	1,653	716	Austria 837.
Coal, coke, briquets:				
Anthracite and bituminous coal thousand tons	13,738	13,300	11,787	France 5,411; Belgium-Luxembourg 3,136; Netherlands 2,493.
Bituminous coal briquets do	386	277	251	France 76; Italy 73; Netherlands 51; Belgium Luxembourg 51.
Lignite and lignite briquets do	1,681	1,342	984	France 374; Netherlands 280; Austria 212.
Peat and peat briquets do	164	167	98	Netherlands 75; Switzerland 29; United States 27.
Coke and semicoke from coal, peat and lignite do	10,929	9,759	7,041	France 3,294; Belgium-Luxembourg 3,291; Sweden 683.
Carbon black	31,822	29,329	14,212	France 4,519; Belgium-Luxembourg 4,180; Netherlands 4,063; Austria 3,950.
Gas, fuel, natural and manufactured thousand tons	316	300	240	France 108; Belgium-Luxembourg 66; Netherland 65; Denmark 56.
Hydrogen and rate gases	83	112	16	Switzerland 29; Denmark 24; Spain 17; France 14.
Petroleum:				
Crude and partly refined oil thousand tons	---	22	---	Austria 21.
Refinery products:				
Gasoline do	1,355	1,197	119	Switzerland 321; United Kingdom 273; Denmark 210.
Kerosine do	443	383	5	Switzerland 15; Sweden 9; Denmark 8; bunkers 341.
Distillate fuel oil do	1,454	1,003	103	Switzerland 542; Denmark 99; bunkers 224.
Residual fuel oil do	3,725	3,652	1,318	Netherlands 1,042; Switzerland 504; Austria 268; Belgium-Luxembourg 245; bunkers 1,307.
Lubricants do	122	124	49	Netherlands 27; United Kingdom 16; Belgium-Luxembourg 13; Austria 12.
Mineral jelly and wax do	53	62	15	Netherlands 7; Sweden 6; Italy 5.
Nonlubricating oils, n.e.s. do	66	77	39	Belgium-Luxembourg 24; United Kingdom 18; Netherlands 9; Denmark 8.
Pitch and pitch coke do	211	212	136	France 111; Austria 17; Spain 16; Netherlands 15.
Petroleum coke do	151	164	97	France 52; Netherlands 35; Switzerland 33 Spain 17.
Bitumen and other residues thousand tons	193	231	43	Switzerland 78; Denmark 71; Netherlands 29; Austria 23.
Bituminous mixtures, n.e.s. do	24	24	9	Denmark 8; Netherlands 6; Switzerland 2.
Tar, mineral, and other crude chemicals from coal, petroleum, and natural gas distillation, n.e.s. thousand tons	145,590	162,655	90,369	France 44,805; United States 34,073; Netherlands 32,259.

NA Not available.

[1] Belgium, France, Italy, Luxembourg, and the Netherlands.

Table 3.—Federal Republic of Germany: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 sources	
			EEC[1]	Principal sources
Metals:				
Aluminum:				
Bauxite thousand tons	1,622	1,636	103	Yugoslavia 681; Greece 347; Australia 230.
Alumina	53,563	57,728	4,281	Guinea 48,659; France 4,279.
Aluminum hydroxide	1,504	818	33	NA.
Metal, including alloys:				
Scrap	56,816	58,662	22,268	United States 15,864; France 8,266; Netherlands 9,029.
Ingots and equivalent forms	165,274	169,519	35,454	Norway 38,261; United States 40,465; Canada 22,805.
Semimanufactures	28,834	32,668	26,567	Belgium-Luxembourg 11,284; France 7,545; Netherlands 4,683.
Antimony:				
Ore and concentrate	2,661	2,793	---	Thailand 1,010; Turkey 999; Peru 337.
Oxides	828	NA	339	United Kingdom 277; Belgium-Luxembourg 264.
Metal, all forms	3,351	2,751	57	NA.
Arsenic anhydrides	965	1,308	1,277	Belgium-Luxembourg 1,054; France 224.
Bismuth metal, all forms	259	233	99	Netherlands 57; Peru 55; mainland China 55.
Cadmium:				
Oxide and hydroxide kilograms	73,900	NA	73,900	Belgium-Luxembourg 73,800.
Metal, all forms	904,100	1,196	487,000	Belgium-Luxembourg 327,700; United States 155,900; Netherlands 127,800.
Chromium:				
Chromite	236,693	305,560	205	Republic: South Africa 117,551; U.S.S.R. 75,804; Turkey 64,406.
Oxides and hydroxide	89	265	123	Poland 46; United Kingdom 94; Italy 40; France 39.
Metal, all forms kilograms	68,400	70,800	49,900	France 49,900; United Kingdom 9,200; Japan 8,000.
Cobalt:				
Oxides and hydroxides	261	263	225	Belgium-Luxembourg 224.
Metal, all forms	678	788	601	Belgium-Luxembourg 543; France 45.
Copper:				
Ores and concentrates	149,330	144,871	---	Cyprus 52,220; Chile 28,882; Nicaragua 39,088.
Matte	2,295	1,453	---	Czechoslovakia 1,006; United Kingdom 445.
Scrap	79,432	109,104	41,040	France 17,820; Netherlands 15,763; United States 19,483.
Blister	135,862	142,076	3,376	Chile 49,143; Zambia 46,678; Peru 14,524.
Refined copper, unwrought	309,886	299,236	78,893	Chile 80,608; Belgium-Luxembourg 57,266; Zambia 47,407; United States 46,926; United Kingdom 38,839.
Copper alloys, unwrought	41,925	42,540		
Master alloys	840	1,251	286	United Kingdom 448; Switzerland 414.
Semimanufactures, including alloys	42,905	72,673	48,038	Belgium-Luxembourg 23,553; Italy 9,051; France 8,214; Netherlands 7,219.
Gold and alloys:				
Unwrought thousand troy ounces	2,694	3,930	NA	NA.
Semimanufactures do	17	17	NA	NA.
Iron and steel:				
Ore and concentrates:				
Iron ore thousand tons	35,024	35,471	5,933	Sweden 9,952; France 5,927; Liberia 5,776; Brazil 3,357; Venezuela 1,944; Peru 1,601.
Roasted pyrites do	1,949	1,888	678	Spain 609; Netherlands 230; France 207.
Speigeleisen thousand tons	16	10	10	France 9.
Pig iron, including cast iron do	258	188	109	France 52; Belgium-Luxembourg 32; Netherlands 25; Norway 23.
Powder and shot do	17	18	5	Sweden 10; France 3; United Kingdom 2.
Ferroalloys:				
Ferromanganese do	90	88	58	France 49; Norway 18; Republic of South Africa 8.
Other do	189	193	22	Norway 102; France 19; Republic of South Africa 12; Switzerland 10.
Scrap do	1,765	1,088	720	Netherlands 334; Belgium-Luxembourg 302; United Kingdom 189.
Steel, primary forms:				
Ingots do	46	4	2	Hungary 2; Italy 1.
Blooms, billets and slabs do	476	368	352	Belgium-Luxembourg 278; France 72.
Coil for rerolling do	583	503	78	Austria 332; U.S.S.R. 57; France 40; Netherlands 20; United Kingdom 19.
Semimanufactures:				
Wire rod do	529	547	490	France 253; Belgium-Luxembourg 197.
Other bars and rods do	732	733	619	Belgium-Luxembourg 307; Italy 154; France 136.
Sections:				
Large do	344	339	322	Belgium-Luxembourg 174; France 125; Italy 21.
Small do	174	206	175	Belgium-Luxembourg 83; France 55; Italy 31; Austria 9.

See footnotes at end of table.

Table 3.—Federal Republic of Germany: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 sources	
			EEC[1]	Principal sources
Metals—Continued				
Iron and steel—Continued				
Semimanufacturing—Continued				
Plates and sheets:				
Heavy plates---------do----	376	548	376	Belgium-Luxembourg 240; France 103; Sweden 54; Austria 54.
Medium plates-------do----	196	219	204	Belgium-Luxembourg 131; France 62.
Thin, uncoated-------do----	1,217	1,326	1,203	France 610; Belgium-Luxembourg 390; Netherlands 147.
Coated:				
Tinned----------do----	112	99	98	Belgium-Luxembourg 44; France 43.
Other-----------do----	77	77	73	Belgium-Luxembourg 47; France 25.
Hoop and strip-----------do----	345	333	309	Belgium-Luxembourg 184; France 72; Netherlands 44.
Railway track material----do----	11	21	18	Belgium-Luxembourg 11; France 4; Netherlands 3.
Wire (excluding wire rod)--do----	53	73	58	Belgium-Luxembourg 42; Netherlands 8; France 8.
Tubes, pipes and fittings---do----	168	188	131	Netherlands 48; Italy 43; Belgium-Luxembourg 34; Sweden 21.
Castings and forgings, rough do----	8	10	7	Belgium-Luxembourg 4; France 2.
Lead:				
Ores and concentrates---------------	109,056	139,497	---	Sweden 34,965; Peru 31,770; Canada 25,460.
Oxides------------------------------	3,595	3,727	1,168	Mexico 1,255; France 953; United Kingdom 387; Yugoslavia 330; Poland 315.
Metal and alloys:				
Scrap-------------------------	10,347	5,558	2,423	Mexico 1,340; Belgium-Luxembourg 981 Netherlands 886; France 556.
Unwrought--------------------	100,048	116,677	36,146	United Kingdom 23,248; Belgium-Luxembourg 22,489; Australia 17,215; Peru 11,236.
Semimanufactures-------------	2,149	2,057	592	France 565.
Magnesium:				
Oxide and hydroxide---------------	2,399	2,115	NA	NA.
Scrap------------------------------	387	552	113	United Kingdom 157; Sweden 88; Netherlands 71; Switzerland 62.
Unwrought------------------------	34,120	40,494	4,292	Norway 19,864; United States 12,413.
Semimanufactures-----------------	137	256	---	Austria 128; United States 84.
Manganese:				
Ores and concentrates-thousand tons--	764	732	2	Republic of South Africa 194; Gabon 145; India 118.
Oxides----------------------------	1,579	2,377	256	Japan 1,960; Belgium-Luxembourg 168; Austria 160.
Metal, all forms-------------------	2,755	2,418	NA	NA.
Mercury:				
Oxides------------------kilograms--	74,700	NA	---	
Metal-------------76-pound flasks--	24,329	22,974	9,312	Italy 9,108; Spain 4,293; mainland China 2,436; Yugoslavia 2,321; Mexico 1,537.
Molybdenum metal, all forms-----------	445	316	43	United States 116; Austria 98; Netherlands 37
Nickel:				
Ores and concentrates---------------	121	530	---	All from Japan.
Matte and speiss-------------------	3,680	4,133	---	Canada 3,896.
Metal and alloys:				
Scrap-------------------------	3,208	1,895	857	Netherlands 561; United Kingdom 498; Switzerland 151; United States 127.
Unwrought--------------------	23,403	23,933	904	United Kingdom 9,918; Canada 5,561; Norway 4,528.
Semimanufactures-------------	1,376	1,853	543	United Kingdom 426; France 377; United States 319.
Platinum-group metals:				
Ashes, residues, scrap-----kilograms--	31,900	49,300	NA	NA.
Metals, all forms-------troy ounces--	358,687	450,110		
Radioactive and associated materials:				
Radioactive elements and isotopes and other compounds-------kilograms--	36,343	10,424	NA	NA.
Other isotopes---------------------	37,531	392		
Compounds of thorium, uranium, and rare-earth metals-----------------	537	786		
Silicon------------------------------------	16,878	19,051	NA	NA.
Silver:				
Silver-platinum ores and concentrates--	2,463	563	---	All from Peru.
Ashes, residues, scrap-----kilograms--	280,199	237,786	NA	NA.
Unwrought including alloys thousand troy ounces--	45,180	55,463	NA	NA.
Semimanufactures including alloys do----	1,938	3,327	NA	NA.

See footnotes at end of table.

Table 3.—Federal Republic of Germany: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 sources	
			EEC[1]	Principal sources
Metals—Continued				
Tantalum metal, all forms ____kilograms__	4,800	11,000	2,000	United States 7,000; France 1,000; Austria 1,000; Switzerland 1,000.
Tin:				
Ores and concentrates_____long tons__	7,539	7,816	---	All from Bolivia.
Oxides____do____	213	206	206	Belgium-Luxembourg 153; France 53.
Metal and alloys:				
Scrap____do____	212	388	186	Netherlands 159; Poland 74; Bolivia 52; Switzerland 44.
Unwrought____do____	13,608	13,492	9,677	Netherlands 8,173; Belgium-Luxembourg 1,629; United Kingdom 1,096; Nigeria 1,073.
Semimanufactures____do____	19	34	4	United Kingdom 16; United States 12; Netherlands 4.
Titanium, vanadium, molbydenum, tantalum, and zirconium ores and concentrates.	394,703	447,426	164	Norway 270,368; Australia 39,260; Canada 20,514.
Titanium dioxide	1,609	1,812	1,689	France 664; Belgium-Luxembourg 648; Italy 376.
Tungsten:				
Ores and concentrates	4,908	6,120	82	Mainland China 1,670; United Kingdom 926; U.S.S.R. 760.
Metal, all forms	352	449	134	United States 136; France 56; Austria 50; Netherlands 47.
Uranium and thorium:				
Ores and concentrates	28	1,676	1,676	All from France.
Metal and alloys____kilograms__	---	12,100	---	All from United Kingdom.
Zinc and alloys:				
Ores and concentrates	145,842	120,747	1,650	Sweden 31,086; Canada 21,820; Finland 19,235.
Oxides	4,502	3,605	2,614	France 1,191; Netherlands 947; Yugoslavia 438.
Metal and alloys:				
Scrap	543	549	377	Netherlands 303; Denmark 61; France 59.
Zinc dust (blue powder)	3,554	5,468	4,729	Belgium-Luxembourg 4,709; Poland 535.
Unwrought	167,276	184,305	80,192	Belgium-Luxembourg 60,068; U.S.S.R. 24,019; Canada 19,444.
Semimanufactures	11,413	15,847	9,184	Belgium-Luxembourg 6,553; Yugoslavia 5,048; France 2,341; United States 1,525.
Zirconium metal, all forms_____kilograms__	14,800	23,600	NA	NA.
Other:				
Nonferrous ores and concentrates	3,704	4,132	1,212	Turkey 1,378; Thailand 1,240; France 1,212.
Metalliferous nonferrous waste, n.e.s.	71,781	92,057	26,808	United States 13,076; Norway 12,296; Netherlands 10,981; Belgium-Luxembourg 7,459.
Oxides and hydroxides of barium and strontium.	2,499	2,164	566	United Kingdom 999; United States 594; France 427.
Other inorganic bases, n.e.s.	2,557	3,127	547	United States 1,217; United Kingdom 435; U.S.S.R. 380; Belgium-Luxembourg 338; Canada 278.
Metals:				
Alkali, alkaline earth, and rare-earth metals.	322	32	5	United States 16; Canada 7; France 5; United Kingdom 4.
Arsenic and tellurium	41	53	NA	NA.
Boron and nitrogen	28	3	NA	NA.
Columbium and tantalum metals, all forms.	704	770	NA	NA.
Phosphorus and selenium	616	2,333	NA	NA.
Pyrophoric alloys	33	62	9	Austria 50; France 9.
Other	5	6	NA	NA.
Nonmetals:				
Abrasives:				
Natural:				
Industrial diamond thousand carats__	495	565	NA	NA.
Dust and powder of gem stones, including diamond______do____	962	1,250	NA	NA.
Diatomite and other siliceous earths.	62,722	87,254	12,771	Denmark 67,650; France 12,639; United States 4,686.
Pumice, emery, other natural abrasives.	210,031	113,592	90,229	Italy 89,559; Greece 21,387.
Manufactured (grinding stone)	2,480	2,799	1,080	Austria 604; France 511; Sweden 406.
Artificial:				
Artificial corundum	3,767	4,619	NA	NA.
Silicon carbide	5,227	6,504	NA	NA.
Asbestos:				
Crude or partially worked	142,812	173,473	7,476	Canada 85,909; U.S.S.R. 42,140; Rhodesia 18,470.
Asbestos cement products	94,468	110,793	55,169	Belgium-Luxembourg 38,792; Sweden 19,420; Austria 13,331.
Asbestos manufactures, excluding friction materials.	7,804	8,356	NA	NA.

See footnotes at end of table.

Table 3.—Federal Republic of Germany: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 sources	
			EEC[1]	Principal sources
Nonmetals—Continued				
Barite and witherite	45,964	54,044	NA	NA.
Boron salts, natural	48,618	55,052	415	United States 49,931; Turkey 4,707.
Boric oxide and acid	11,081	11,521	8,720	France 6,250; United States 2,792; Italy 2,433.
Cement, hydraulic thousand tons	351	460	262	France 224; Switzerland 118; Poland 49.
Chalk do	133	126	104	France 91; Denmark 20; Belgium-Luxembourg 13.
Clays and clay products:				
Crude:				
China clay (kaolin) do	365	381	NA	NA.
Fire clay do	196	228	NA	NA.
Andalusite, dinas, other do	216	252	NA	NA.
Products: Construction materials:				
Building bricks do	546	507	411	Netherlands 362; Denmark 76; Belgium-Luxembourg 26.
Other (roof tile, ceramic piping, etc.) do	199	235	NA	Netherlands 59; Italy 55; France 31; Japan 26.
Refractory:				
Heat-insulating bricks of diatomite and similar earths.	10,236	12,101	685	Denmark 10,896; France 615.
Bricks, n.e.s.	58,084	64,141	13,578	Austria 21,856; Norway 9,053; France 9,029; Yugoslavia 8,256.
Mortars	22,323	16,904	4,893	Ireland 4,869; Austria 3,509; France 3,019.
Cryolite and chiolite	3,238	3,576	---	All from Denmark.
Diamond and other gem stones:				
Diamond, except powder and dust:				
Other:				
Crude or rough cut thousand carats	400	375	NA	NA.
Other worked do	165	215	NA	NA.
Other precious or semiprecious:				
Crude or rough cut kilograms	617,574	824,172	NA	NA.
Other do	3,548	2,932	NA	NA.
Dolomite thousand tons	118	120	84	Belgium-Luxembourg 68; Austria 22; Norway 19.
Feldspar	43,748	51,206	NA	NA.
Fertilizer materials:				
Crude, natural:				
Phosphatic thousand tons	2,291	2,521	---	United States 964; Morocco 574; U.S.S.R. 310.
Potassic	20,266	---	---	
Nitrogenous (natural sodium nitrate).	---	8,120	---	All from Chile.
Organic including guano	16,676	18,935	14,789	Netherlands 7,931; France 6,789; Peru 3,671.
Manufactured:				
Nitrogenous	120,271	158,079	156,973	Belgium-Luxembourg 141,229; France 12,221.
Phosphatic:				
Basic slag	423,621	529,082	513,984	Mainly from Belgium-Luxembourg.
Other	23,785	24,069	20,980	Netherlands 15,628; Belgium-Luxembourg 5,046.
Potassic	27,932	49,145	49,141	France 49,136.
Other	8,274	16,078	14,953	Belgium-Luxembourg 7,498; France 6,552.
Fluorspar	60,732	110,846	NA	NA.
Graphite, natural crude or ground	16,211	17,729	189	Austria 9,916; Norway 2,281; Madagascar 2,078.
Gypsum and anhydrite	81,090	77,709	27,773	NA.
Limestone and other calcareous stone, excluding dimension stone thousand tons	362	1,005	38	Austria 677; Sweden 245; France 20.
Lime, hydraulic or slaked	98,768	93,383	89,900	France 89,533.
Magnesite:				
Crude	8,885	3,066	NA	NA.
Caustic calcined	115,426	123,386		
Other sintered or fired	177,712	223,938		
Magnesite, dolomite, chrome-magnesite refractories.	46,403	46,286		
Mica:				
Crude and scrap	6,373	6,856	300	India 3,728; Norway 917; United Kingdom 807.
Manufactures	145	204	86	France 54; Belgium-Luxembourg 32.
Pigments, mineral	3,222	3,575		
Salt:				
Table	8,643	6,407	NA	NA.
Other	87,467	87,444		
Sodium and potassium compounds, n.e.s.:				
Caustic soda	36,726	76,097	70,488	Netherlands 61,055; France 5,036; Italy 3,046.
Caustic potash and peroxides of sodium and potassium.	2,567	4,022	3,759	Belgium-Luxembourg 2,925; France 819.

See footnotes at end of table.

Table 3.—Federal Republic of Germany: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	1965 sources	
			EEC[1]	Principal sources
Nonmetals—Continued				
Stone, sand and gravel:				
Quartz and quartzite, crude, ground, and/or roughly squared.	41,462	51,091	11,587	Norway 15,036; Sweden 12,607; Belgium-Luxembourg 9,371.
Dimension stone:				
Crude or partly worked:				
Marble and other calcareous thousand tons	178	192	84	Italy 61; Austria 60; Portugal 21.
Slate do	6	7	5	Italy 2; Norway 1; Belgium-Luxembourg 1; France 1.
Granite, sandstone, and other, n.e.s.	459	558	13	NA.
Worked:				
Building and monumental do	76	116	91	Italy 85; Spain 9; Switzerland 5.
Paving blocks and flagstones do	137	142	1	Portugal 103; Poland 20; Austria 11.
Slate do	15	15	12	Italy 10; Portugal 2.
Gravel and crushed stone, including macadam do	6,150	7,831	4,940	France 3,970; Denmark 1,882; Netherlands 391.
Sand, excluding metal-bearing do	1,206	1,513	1,411	France 837; Belgium-Luxembourg 328; Netherlands 246.
Sulfur, all forms:				
Pyrite do	1,602	1,548	---	Spain 658; Norway 456; Cyprus 174.
Elemental, excluding colloidal and precipitated thousand tons	405	486	448	NA.
Elemental, colloidal, precipitated	247	150	150	Italy 149.
Sulfur dioxide	200	573	559	Belgium-Luxembourg 559.
Sulfuric acid	156,338	219,532	168,654	France 65,718; Netherlands 55,317; Belgium-Luxembourg 47,618; Switzerland 26,103.
Mineral fuels:				
Asphalt and bitumen, natural	18,409	16,701	---	United States 11,181; Trinidad 5,377.
Carbon black	35,799	42,000	23,216	United States 14,670; Italy 11,989; Netherlands 7,229.
Coal, lignite, peat:				
Anthracite and bituminous thousand tons	7,058	7,166	983	United States 5,033; United Kingdom 535; France 420; Poland 408.
Bituminous briquets do	373	305	305	Netherlands 295.
Lignite and lignite briquets do	1,228	979	12	Czechoslovakia 948.
Peat and peat briquets do	22	12	8	Netherlands 8; Denmark 3.
Coke, except petroleum coke do	364	627	481	Netherlands 381; Czechoslovakia 92; Belgium-Luxembourg 91.
Gas:				
Natural	41,240	66,488	65,522	Netherlands 51,247; France 12,746.
Manufactured	809	245	245	All from Netherlands.
Hydrogen and rate gases	63	59	25	Netherlands 14; Hungary 13; France 10.
Petroleum:				
Crude, including shale oil thousand tons	51,276	59,068	---	Libya 23,131; Saudi Arabia 8,104; Iran 6,120; Iraq 5,175; Venezuela 3,499.
Refinery products:				
Gasoline do	1,391	1,551	1,145	France 448; Netherlands 320; Italy 189; Belgium-Luxembourg 188; U.S.S.R. 127.
Kerosine do	262	272	199	Netherlands 83; Belgium-Luxembourg 81; France 33; United Kingdom 33; Israel 29.
Distillate fuels do	8,586	9,312	5,566	Italy 1,999; Netherlands 1,811; France 1,338; Venezuela 650; United Kingdom 585; U.S.S.R. 481.
Residual fuel oils do	2,881	3,383	1,826	France 1,004; Netherlands 733; Venezuela 395; United Kingdom 312.
Lubricants do	252	199	90	United States 52; United Kingdom 40; France 38; Netherlands 32.
Mineral jelly and wax do	46	51	11	United States 26; Indonesia 10; Netherlands 9.
Nonlubricating oils, n.e.s. do	18	75	4	Venezuela 34; United States 16; Spain 16.
Pitch and pitch coke do	56	35	9	Czechoslovakia 21; Netherlands 8; Poland 5.
Petroleum coke do	198	283	1	United States 276; Switzerland 4.
Petroleum and shale oil residues do	682	497	459	Netherlands 272; Belgium-Luxembourg 100; France 84; Hungary 32.
Bitumen and ashpalt mixtures do	15	15	10	Netherlands 8; United Kingdom 3.
Tar, mineral, and other crude chemicals from coal, petroleum, and natural gas.	211,158	245,119	59,383	Czechoslovakia 82,076; United Kingdom 50,511; Netherlands 25,661; Belgium-Luxembourg 22,961.

NA Not available.

[1] Belgium, France, Italy, Luxembourg, and the Netherlands.

[2] Less than ½ unit.

Ghana

Table 1.—Ghana: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Bauxite	243,332	314,359	250,386	319,267	322,947
Gold .... troy ounces	888,038	921,255	864,917	755,191	684,395
Iron and steel: Steel semimanufactures	------	------	------	[e] 8,000	[e] 8,000
Manganese ore	379,442	[r] 407,436	462,067	604,023	587,332
Silver (exports) .... troy ounces	4,443	4,827	------	------	------
Nonmetals:					
Diamond [2] .... thousand carats	3,208	2,678	2,668	2,248	2,819
Salt .... thousand tons	19	20	31	27	36
Mineral fuels:					
Petroleum refinery products:					
Gasoline	------	35,303	154,465	141,766	NA
Kerosine	------	24,121	50,333	49,032	NA
Distillate fuel oil	------	65,833	268,032	262,306	NA
Residual fuel oil	------	62,023	263,444	245,542	NA
Other	------	28,685	1,437	1,805	NA
Total	------	215,965	737,711	700,451	NA

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, cement production started in 1965, but output data are not available. Also, stone is quarried; output average about 1.5 million cubic yards annually.

[2] Approximately 10 percent of annual output is gem-quality diamond.

Table 2.—Ghana: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite .... thousand tons	269	287	United Kingdom 267; Italy 10; United States 10.
Semimanufactures	---	13	Upper Volta 9; Mali 4.
Gold, bullion thousand troy ounces	831	783	All to United Kingdom.
Manganese ore ... thousand tons	506	574	Norway 213; United States 204; Canada 82.
Scrap, nonferrous	1,774	1,041	Belgium-Luxembourg 299; United Kingdom 202; West Germany 188.
Residues (slag, dross, scale, etc.)	30	---	
Nonmetals:			
Cement	---	146	All to Upper Volta.
Diamond .... thousand carats	2,569	3,084	Belgium-Luxembourg 1,277; Netherlands 725; United Kingdom 586; Israel 351.
Mineral fuels:			
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	120	50	All to Nigeria.
Kerosine .... do	16	27	Do.
Distillate fuel oil .... do	86	293	Nigeria 169; United Kingdom 123.
Residual fuel oil .... do	1,348	1,260	Italy 912; United Kingdom 121.
Other, mainly lubricants .. do	---	36	United States 33.
Total .... do	1,570	1,666	

[1] In addition to commodities listed, a few tons of salt were exported in most years.

Table 3.—Ghana: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Ingots	80	288	Switzerland 260.
Semimanufactures	5,699	6,004	United Kingdom 3,615; United States 1,279; U.S.S.R. 867.
Copper and alloys, semimanufactures	399	1,014	United Kingdom 503; United States 258.
Gold:			
Bullion troy ounces	4,942	---	
Partly worked do	808	1,904	All from United Kingdom.
Iron and steel:			
Ore and concentrate	112	---	
Pig iron and ferroalloys	419	357	United Kingdom 331.
Ingots and similar forms	2,064	3,148	Belgium–Luxembourg 1,956; United Kingdom 1,192.
Semimanufactures:			
Bars and rods	169,217	133,011	West Germany 85,495; Poland 9,217; U.S.S.R. 9,028.
Angles, shapes, and sections	2,564	2,644	United Kingdom 1,510; West Germany 293.
Plate, sheet, hoop, and strip	10,336	15,057	Japan 7,307; United Kingdom 4,274.
Rails and accessories	7,932	1,241	United Kingdom 757; Norway 385.
Wire	2,831	2,234	West Germany 1,070; Belgium–Luxembourg 231.
Tubes, pipes, and fittings	30,616	19,564	Mainland China 6,147; Italy 3,808; West Germany 3,476.
Castings and forgings	1,784	1,834	Zambia 464; Mainland China 416; Italy 384.
Total	227,763	179,090	
Lead:			
Ore and concentrate	---	21	Nigeria 20.
Ingots and semimanufactures, including alloys.	186	472	Belgium–Luxembourg 431.
Silver, unworked and semiworked troy ounces	400	176	All from United Kingdom.
Tin and alloys, ingots and semimanufactures long tons	171	70	United Kingdom 62.
Zinc and alloys, ingots and semimanufactures.	60	1,046	North Korea 512; United States 281.
Metals, not elsewhere specified:			
Ore and concentrate [1]	30	116	United Kingdom 101; Norway 15.
Oxides, mainly for paint, and other metallic compounds.	3,088	685	Netherlands 385; United States 97.
Scrap, nonferrous	6	20	United Kingdom 18.
Ingots and semimanufactures	4	7	United States 3; United Kingdom 2.
Nonmetals:			
Abrasives, natural, diatomite	61	109	United Kingdom 108.
Cement thousand tons	645	525	U.S.S.R. 275; Poland 132; United Kingdom 35.
Clay	1,303	2,977	United Kingdom 1,758.
Clay construction materials, brick, tile, etc.	3,322	18,517	United States 12,821; United Kingdom 1,266.
Fertilizer materials:			
Crude, all types	598	706	U.S.S.R. 356; Togo 85.
Manufactured:			
Nitrogenous	776	873	West Germany 447; United Kingdom 356.
Phosphatic	246	4,183	Netherlands 1,945; West Germany 1,885.
Potassic	969	[e] 2,540	East Germany [e] 2,510.
Mixed	1,565	511	Netherlands 274; West Germany 188.
Ammonia	22	45	United Kingdom 21; Netherlands 8.
Gypsum	26	4,650	France 3,171; United Kingdom 1,428.
Lime	3,005	5,837	United Kingdom 4,756; Yugoslavia 499.
Limestone	7	54,903	All from United Kingdom.
Salt	2,135	8,553	East Germany 8,201.
Sodium and potassium compounds:			
Potash, caustic	124	15	United Kingdom 12.
Soda, caustic	2,465	2,190	United Kingdom 1,923.
Stone, sand and gravel:			
Dimension stone, worked	615	675	Italy 629.
Grinding stone and wheels	58	64	United Kingdom 34; Denmark 14.
Undifferentiated	1,505	2,287	Italy 1,572; West Germany 444.
Sulfur in all forms:			
Crude	13	17	United Kingdom 10; United States 4.
Sulfuric acid and other inorganic acids.	338	877	Italy 428; United Kingdom 318.

See footnotes at end of table.

Table 3.—Ghana: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Nonmetals, not elsewhere specified:			
Chemicals, inorganic	48	527	West Germany 360; United Kingdom 166.
Gases, hydrogen and other	108	65	Nigeria 31; Ivory Coast 21.
Minerals, crude	646	1,198	Italy 688; United Kingdom 271.
Mineral fuels:			
Coal, coke, and briquets	45,623	27,753	Nigeria 27,141.
Petroleum: [2]			
Crude thousand 42–gallon barrels	3,847	4,233	U.S.S.R. 3,476; Libya 401.
Refinery products:			
Gasoline do	57	20	Venezuela 15.
Jet fuel and kerosine do	101	139	Venezuela 55; Italy 47; Netherlands 25.
Distillate fuel oil do	7	23	Nearly all from Venezuela.
Residual fuel oil do	47	51	All from Nigeria.
Lubricating oil do	108	148	United Kingdom 48; United States 46; Nigeria 35.
Other liquid products do	---	6	United States 3; West Germany 3.
Total do	320	387	
Grease	969	1,002	United Kingdom 391; United States 278; West Germany 199.
Other solid products	1,527	4,639	East Germany 1,889; West Germany 748;. United States 723.
Asphalt and bitumen	9,646	12,227	Netherlands West Indies 6,257; U.S.S.R 1,892.
Tar, pitch and other crude chemicals from coal, oil and gas.	154	221	United Kingdom 136; Israel 45.

[e] Estimate.

[1] Principally manganese.

[2] Does not include small quantities of manufactured gas (liquified petroleum gas), given only in terms of value.

Greece

Table 1.—Greece: Production of mineral commodities
(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964 [p]	1965 [p]	1966 [p]
Metals:					
Aluminum, primary	------	------	------	------	36,000
Bauxite thousand tons	1,287	[r] 1,277	[r] 1,063	[r] 1,257	1,200
Chromite:					
Crude products [2]	56,247	[r] 51,179	[e] 60,000	[e] 51,000	[e] 40,000
Iron and steel:					
Iron ore (46–52 percent Fe) thousand tons	212	36	60	300	15
Pig iron do	NA	NA	164	225	NA
Steel ingots and castings do	[e] 155	209	210	210	210
Rolled products do	NA	150	215	250	315
Lead:					
Concentrate:					
Gross weight	19,691	19,700	20,000	13,000	15,000
Metal content [e]	12,800	13,200	14,400	8,450	9,750
Metal smelter:					
Primary	[r] 4,442	[r] 3,289	5,000	5,200	5,500
Other	NA	1,000	NA	4,600	4,800
Total	NA	4,500	NA	9,800	10,300
Manganese concentrate (40–45 percent MnO_2)	13,696	[r] 19,303	[e] 30,000	[e] 70,000	[e] 75,000
Nickel-iron (24 percent nickel)	------	------	------	------	1,200
Silver thousand troy ounces	138	[r] 123	[r] 158	145	160
Zinc concentrate:					
Gross weight	33,040	31,000	30,000	20,000	NA
Metal content [e]	17,181	18,200	12,823	13,000	14,100
Nonmetals:					
Asbestos	------	67	[e] 60	[e] 75	[e] 75
Barite thousand tons	71	85	68	120	130
Bentonite do	21	40	40	50	90
Cement do	1,923	2,294	2,672	[r] 3,212	3,588
Emery	7,600	7,500	7,600	7,800	7,600
Fertilizers:					
Nitrogenous thousand tons	NA	NA	NA	NA	223
Phosphate do	48	58	58	67	549
Gypsum	94,284	[e] 95,000	[e] 80,000	[e] 100,000	[e] 120,000
Kaolin	34,958	[r] 32,045	[e] 30,000	[e] 55,000	[e] 70,000
Magnesite, crude thousand tons	[r] 218	[r] 268	[e] 200	[e] 350	[e] 375
Marble thousand cubic meters	44	40	40	45	45
Perlite thousand tons	30	30	28	30	100
Pumice do	80	51	80	200	300
Pyrites do	144	[r] 113	140	150	135
Salt do	115	83	102	[r] 91	[e] 91
Santorin earth (pozzolan) do	188	238	[e] 200	[e] 400	[e] 350
Talc	2,415	[r] 2,744	[e] 2,800	3,500	3,500
Mineral fuels:					
Coal (lignite) thousand tons	2,695	3,516	[r] 3,802	[r] 5,009	[e] 5,100
Fuel briquets (from lignite) do	81	141	160	[r] 375	[e] 400
Gas coke do	22	21	16	[r] 17	[e] 25
Manufactured gas million cubic meters	13	14	12	12	NA
Petroleum refinery products:					
Gasoline thousand 42-gallon barrels	1,953	2,178	2,254	2,160	2,721
Kerosine and jet fuel do	1,423	1,294	1,377	1,289	2,530
Distillate fuel oil do	4,048	4,503	4,364	4,440	5,679
Residual fuel oil do	5,092	4,755	4,837	4,692	9,094
Other do	468	601	698	813	868

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[p] Preliminary. [e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, Greece produced a variety of simple construction materials.

[2] Includes refractory and metallurgical ores.

Table 2.—Greece: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite thousand tons	1,063	1,150	U.S.S.R. 460; West Germany 348; United Kingdom 71; Spain 63; France 56; Italy 46.
Semimanufactures	1,010	433	United States 100; Cyprus 73; South Viet-Nam 63; Bulgaria 43.
Chromite	22,508	29,517	France 15,605; West Germany 12,905.
Copper:			
Matte	77	64	All to Belgium-Luxembourg.
Scrap	---	49	West Germany 37; United Kingdom 12.
Semimanufactures, including alloys.	427	1,337	South Viet-Nam 363; West Germany 347; Syria 200; Libya 95; France 80.
Iron and steel:			
Iron ore	---	4,480	All to Rumania.
Roasted pyrite	---	25,036	West Germany 24,536.
Slag, scale, etc. from manufacture of iron and steel.	2,530	---	
Ingots and other primary forms	---	17,793	Spain 14,092; Netherlands 3,641.
Semimanufactures:			
Bars, rods, and sections	---	15,928	Tunisia 9,360; Yugoslavia 6,546.
Universal plates and sheets	93	146	Italy 100.
Tubes, pipes, and fittings	950	1,394	Cyprus 1,325.
Lead:			
Ore and concentrate	6,909	10,438	Italy 5,738; West Germany 2,700; France 2,000.
Magnesium, unwrought	---	32	Italy 28.
Manganese ore	13,390	21,602	United States 10,536; Netherlands 3,916; France 3,898; West Germany 2,640.
Nickel:			
Unwrought, including alloys	---	57	All to France.
Semimanufactures, including anodes.	---	5	Do.
Zinc:			
Ore and concentrate	22,407	23,982	NA.
Other nonferrous ores and concentrates	14	25	All to France.
Other nonferrous waste and scrap	1,764	1,515	Spain 1,129; Belgium-Luxembourg 213; Hungary 70.
Other slag and ash, including kelp	1,058	---	
Nonmetals:			
Abrasives:			
Emery, corundum, and other natural abrasives.	127,761	206,748	United States 168,635; West Germany 20,724; Canada 12,000.
Grinding stones	99	159	West Europe 151.
Barite, including witherite	66,911	50,615	Libya 16,405; United States 10,668; Nigeria 10,500; Iran 4,750.
Cement	55,161	154,354	Libya 115,488; Aden 16,680; Cyprus 12,370; Ethiopia 5,620.
Clay and refractory construction materials:			
Clay	108,318	125,974	France 69,920; Libya 32,125; Rumania 6,754; United Kingdom 5,934.
Brick, tile, and refractory materials.	---	1,601	Libya 514; Netherlands 513; West Germany 205; Kuwait 125.
Fertilizer, phosphatic (manufactured)	---	1,030	Cyprus 1,000.
Magnesite	116,496	135,663	West Germany 32,666; Netherlands 26,506; Italy 19,440; United Kingdom 18,055.
Pyrite, unroasted	57,485	7,860	All to Austria.
Stone and gravel:			
Building stone:			
Unworked	28,693	22,558	West Germany 10,215; Italy 5,676; Japan 1,801.
Worked	437	208	Libya 194.
Gravel and crushed stone	---	1,842	Libya 1,827.
Sulfur	6,149	14,607	Hungary 4,365; Egypt 4,326; Yugoslavia 3,966; Cyprus 1,655.
Sulfuric acid, including oleum	206	130	Mid-East.
Other inorganic acids	486	597	Turkey 172; Mid-East 425.
Other nonmetallics	35,570	47,748	West Germany 16,135; United Kingdom 10,198; France 8,925; Belgium-Luxembourg 6,565.

See footnote at end of table.

Table 2.—Greece: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels:			
Petroleum refinery products:			
Distillate fuel oil	4,002	627	NA.
Residual fuel oils	16,649	2,288	United States 1,062.
Lubricating oils, greases	1,529	1,163	Israel 722; Lebanon 314.
Liquefied petroleum gases	1,192	---	
Petroleum coke	---	---	
Other	38	---	

NA Not available.

Table 3.—Greece: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Oxide and hydroxide	1,306	1,349	France 1,043; West Germany 175.
Ingots, including alloys	8,557	8,582	Austria 2,270; United States 1,828; Canada 1,762; Norway 1,623.
Semimanufactures	1,313	2,476	France 1,564; West Germany 435; Italy 232; Switzerland 57.
Chromium oxide	129	155	West Germany 135.
Copper:			
Scrap	33	---	
Blister, unrefined	1,609	2,158	Congo (Leopoldville) 998; Rhodesia 976; Gambia 152.
Refined	4,546	4,213	Congo (Leopoldville) 2,261; Rhodesia 1,649; Gambia 265.
Master alloys	---	---	
Semimanufactures, including alloys.	597	731	West Germany 178; Yugoslavia 132; France 124; Switzerland 72.
Iron and steel:			
Iron ore	271,705	463,434	Tunisia 214,207; Liberia 146,207; India 103,019.
Scrap	1,118	1,174	United Kingdom 537; Netherlands 326; West Germany 136.
Spiegeleisen	61	150	Republic of South Africa 126.
Pig iron, including cast iron	15,371	26,668	West Germany 14,571; U.S.S.R. 6,015; Bulgaria 5,689.
Powder, shot, grit	514	478	United Kingdom 361; West Germany 47.
Ferromanganese	335	280	Republic of South Africa 241.
Other ferroalloys	853	1,168	Republic of South Africa 916; Norway 108.
Ingots and other primary forms	42,812	71,844	West Germany 39,711; France 11,665; Belgium-Luxembourg 11,399; Sweden 5,081.
Semimanufactures:			
Bars, rods, and sections	158,107	149,163	Belgium-Luxembourg 46,377; West Germany 35,761; France 28,606; Italy 18,683; Czechoslovakia 9,692.
Universal plates and sheets	119,621	127,789	West Germany 31,456; Belgium-Luxembourg 29,393; United Kingdom 27,002; Austria 14,329.
Hoop and strip	57,011	57,778	Belgium-Luxembourg 22,377; West Germany 16,354; Italy 8,262; France 6,253.
Rails and accessories	3,313	6,562	Belgium-Luxembourg 4,303; West Germany 1,649.
Wire	6,095	6,681	Belgium-Luxembourg 1,562; West Germany 1,424; Austria 1,341; United Kingdom 846.
Tubes, pipes, and fittings	16,574	20,514	West Germany 5,861; France 4,687; Italy 3,074; United Kingdom 2,022; Japan 1,479.
Castings and forgings	1,214	1,062	Italy 393; United Kingdom 237; West Germany 205; Denmark 147.
Iron oxide and hydroxide	660	700	West Germany 650.
Lead:			
Ore	3,949	6,932	Morocco 3,189; Algeria 3,743.
Oxide	506	482	France 320; West Germany 160.
Pig, including alloys	292	983	Mexico 405; United Kingdom 296; Denmark 175.
Semimanufactures	92	350	France 302; Netherlands 33.

See footnotes at end of table.

Table 3.—Greece: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Magnesium	21	---	
Manganese ore	7,758	68	Japan 25.
Mercury 76-pound flasks	---	58	Mainly from Italy.
Molybdenum value, thousands	$43	$55	Netherlands $47.
Nickel, semimanufactures	57	65	West Germany 33; United Kingdom 24.
Silver, all forms troy ounces	188,596	185,285	West Germany 143,132; United Kingdom 21,798.
Platinum group do	139	2,315	West Germany 1,704; United Kingdom 611.
Tin:			
Ingot long tons	266	240	Netherlands 140; Malaysia 35; United Kingdom 32.
Semimanufactures	7	4	All from West Europe.
Titanium oxide	1,605	1,778	West Germany 587; United Kingdom 470; Belgium-Luxembourg 338.
Tungsten:			
Ore	183	---	
Metals, all forms	3	---	
Zinc:			
Scrap	---	---	
Ingots including alloys	5,627	5,582	Belgium-Luxembourg 2,243; Rhodesia 1,037; Norway 633; West Germany 495.
Semimanufactures	205	219	Poland 137; West Germany 54.
Oxide	402	368	France 166; Netherlands 89; West Germany 72.
Other:			
Nonferrous ores and concentrates, n.e.s.	145	327	Australia 299.
Pyrophoric alloys	2	13	France 11.
Alkali and rate earth metals	5	5	France 3.
Metalloids	---	16	All from West Europe.
Base metals, n.e.s.	40	221	Netherlands 153; Japan 12.
Nonmetals:			
Abrasives:			
Diatomite	901	460	Yugoslavia 338.
Other	27	19	West Europe 15.
Grinding stones, etc	181	287	Italy 65; Austria 61; East Germany 54; West Germany 51.
Asbestos, crude	4,958	4,468	Republic of South Africa 2,308; Canada 1,671; U.S.S.R. 467.
Asbestos cement products	2,452	3,415	France 1,071; Yugoslavia 818; Czechoslovakia 695; Italy 510.
Borates	315	338	All from United States.
Cement	1,231	1,492	Denmark 962; France 460.
Clay, refractory	7,855	11,085	United Kingdom 6,826; West Germany 1,970; France 700.
Clay and refractory construction material.	28,349	30,025	West Germany 8,438; France Italy 7,633; 3,931; United Kingdom 3,273; Austria 2,042.
Dolomite	---	253	All from West Europe.
Earth pigments	---	171	West Europe 158.
Feldspar, fluorspar, etc	---	446	Italy 351.
Fertilizer materials:			
Natural:			
Natural sodium nitrate	5,605	4,161	Chile 4,011.
Phosphatic	25,817	157,650	Morocco 96,916; Tunisia 56,787; France 3,946.
Potassic salts	---	---	
Manufactured:			
Nitrogenous	276,961	194,838	France 77,997; Bulgaria 13,076; East Germany 12,191; West Germany 7,109; Norway 6,792.
Phosphatic, including basic slag.	83,686	60,435	Tunisia 19,180; Italy 13,538; United States 10,322; Yugoslavia 10,294.
Potassic	19,542	36,965	France 13,404; Italy 7,903; West Germany 6,496; East Germany 4,014.
Mixed	74,827	83,942	Belgium-Luxembourg 57,307; Italy 23,640; West Germany 1,724.
Ammonia, anhydrous	1,960	5,862	Italy 5,453; West Germany 162; Austria 126.
Graphite	285	369	West Germany 149; Czechoslovakia 102.
Gypsum and plasters	245	375	West Germany 195.
Magnesite	415	504	Austria 374.
Mica, crude	28	22	India 3.
Mica, worked	6	8	West Europe 6.
Quartz, quartzite	---	417	All from West Europe.

See footnotes at end of table.

Table 3.—Greece: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Stone, sand and gravel, n.e.s.:			
Building stone	11	796	France 766; Italy 29.
Sand	24,170	26,523	Belgium-Luxembourg 21,610; Netherlands 3,724; Italy 942.
Gravel and crushed stone	121	317	West Europe 316.
Sodium and potassium compounds:			
Caustic soda	11,384	13,328	Italy 11,538; France 608; Bulgaria 536.
Caustic potash	35	69	France 46.
Sulfur and sulfuric acid:			
Sulfur, high purity	21,615	10,718	Canada 10,655.
Sulfur, elemental, other	24,835	37,343	France 37,228.
Sulfuric acid	4,459	61,487	Italy 61,421.
Talc	412	69	All from Italy.
Other:			
Crude nonmetals, n.e.s	---	375	Mainly from West Europe.
Inorganic bases and oxides	91	77	West Germany 29; Italy 26; France 21.
Hydrogen and rare gases	57	148	France 57; Sweden 37; Italy 25.
Mineral building products, n.e.s.	450	503	Mainly from Italy and France.
Other inorganic acids, etc., excluding sulfuric acid.	132	979	West Germany 550; Austria 227.
Mineral fuels:			
Carbon black	603	885	Italy 589; United States 153; Israel 63.
Coal and briquets	132,562	199,673	Poland 106,118; U.S.S.R. 42,693; United States 27,988; Turkey 10,704.
Coke	169,747	230,161	West Germany 195,178; Italy 14,986; U.S.S.R. 9,825; Czechoslovakia 8,520.
Gas, natural	---	3,592	All from Italy.
Petroleum:			
Crude	1,705,709	2,589,745	Saudi Arabia 1,180,665; Iran 941,948; U.S.S.R. 467,132.
Refinery products:			
Gasoline	15,446	115,861	U.S.S.R. 44,007; Rumania 32,336; Italy 12,977; United Arab Republic (Egypt) 12,614.
White spirit and kerosine	3,276	6,556	Italy 2,780; Netherlands Antilles 2,446; Aden 506.
Distillate fuels	264,150	637,226	U.S.S.R. 215,316; Rumania 118,001 United Arab Republic (Egypt) 93,180; Italy 83,131.
Residual fuel oils	975,985	1,373,478	United Arab Republic (Egypt) 515,303; U.S.S.R. 457,737; Italy 111,603; Iran 74,009.
Lubricating oils, greases	32,844	38,763	Netherlands 9,300; France 7,942; United States 6,669; Belgium-Luxembourg 5,774.
Mineral jelly, wax	835	809	West Germany 449; United States 140; Czechoslovakia 92; Netherlands 77.
Nonlubricating oils	594	787	Belgium-Luxembourg 321; Netherlands 143; Italy 108.
Pitch from mineral tars	207	324	West Europe 124.
Pitch coke	---	344	France 340.
Petroleum coke	572	5,839	United States 5,702.
Other	16,927	7,581	Albania 4,632; Netherlands 928; Israel 444; Rumania 411.
Total	1,310,836	2,187,244	U.S.S.R. 717,068; United Arab Republic (Egypt) 621,115; Rumania 219,487; Italy 214,153.
Tar, mineral, and other crude chemicals from coal, petroleum, and natural gas distillation.	1,567	1,335	U.S.S.R. 741; United Kingdom 434; Belgium-Luxembourg 96.

NA Not available.

[1] Belgium, Federal Republic of Germany, France, Italy, Luxembourg, and the Netherlands.

Greenland

Table 1.—Greenland: Production of mineral commodities

(Metric tons)

Commodity	1962	1963	1964	1965	1966
Metals:					
Lead concentrate:					
Gross weight	1,900	-----	-----	-----	-----
Metal content	[e] 808	-----	-----	-----	-----
Zinc concentrate:					
Gross weight	6,200	-----	-----	-----	-----
Metal content	[e] 4,000	-----	-----	-----	-----
Nonmetals:					
Cryolite, crude (exports) [1]	40,943	67,130	50,882	57,063	-----
Mineral fuels: Coal, bituminous	26,098	40,000	24,000	20,000	34,000

[e] Estimate.

[1] Quantities shown for 1963 and subsequent years are entirely from accumulated stocks.

Guatemala

Table 1.—Guatemala: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony, content of concentrate	[1] 29	[1] 28	-----	-----	14
Cadmium, in zinc concentrate ----- kilograms	12,400	7,100	15	17	866
Chromite	20	-----	-----	-----	-----
Iron ore [2]	[e] 5,000	[e] 6,000	[e] 7,000	8,469	[e] 10,000
Lead:					
Concentrate for export	([3])	([3])	1,207	[r] 923	901
Local smelter production	63	47	75	114	215
Silver ----- troy ounces	370,595	64,173	[e] 10,000	[e] 18,000	[e] 3,000
Zinc, concentrate	816	1,169	[4] 844	[4] 867	[4] 903
Nonmetals:					
Cement ----- thousand tons	120	157	186	[e] 231	202
Clays [2]	10,267	15,292	41,044	31,906	NA
Dolomite	NA	NA	NA	NA	700
Feldspar	NA	NA	NA	NA	700
Gypsum [2]	9,748	14,794	7,101	9,393	12,000
Lime	NA	NA	NA	19,300	17,000
Limestone ----- thousand tons	[e] 583	[e] 702	[e] 1,071	[2] 370	[2] 371
Mica ----- kilograms	-----	-----	-----	10,000	17,000
Quartz [2]	NA	11,001	21,936	28,431	26,000
Salt ----- thousand tons	17	19	18	15	[e] 15
Volcanic ash	NA	NA	NA	NA	[2] 28,000
Mineral fuels:					
Petroleum refinery products:					
Aviation gasoline thousand 42-gallon barrels	-----	-----	-----	126	NA
Motor gasoline ----- do	-----	217	447	893	1,187
Kerosine ----- do	-----	36	76	210	316
Distillate fuel oil ----- do	-----	116	251	719	1,139
Residual fuel oil ----- do	-----	208	223	1,027	1,335
Liquefied petroleum gases ----- do	-----	12	27	31	49
Total ----- do	-----	589	1,024	3,006	NA

[e] Estimate. [r] Revised. NA Not available.

[1] U.S. imports from Guatemala.

[2] Materials used in cement production. Other production not available.

[3] Gross weight not reported and content of lead concentrates and zinc concentrates was 968 tons in 1962 and 748 tons in 1963.

[4] Exports.

Table 2.—Guatemala: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel:			
Ore and concentrate	---	---	
Scrap	(1)	3	All to El Salvador.
Semimanufactures	378	986	Mainly to El Salvador.
Lead and alloys, all forms	57	76	El Salvador 70.
Lead, ore and concentrate	917	30	All to United States.
Nonferrous ore and concentrate	1,207	1,604	United Kingdom 1,098; Netherlands 506.
Nonferrous metal and scrap, not elsewhere specified	56	47	Spain 40.
Zinc, ore and concentrate	844	867	All to Belgium.
Nonmetals:			
Cement	30,892	44,147	El Salvador 43,918.
Gypsum	345	39	All to El Salvador.
Lime	1,330	1,197	Do.
Marble	1,317	1,692	El Salvador 1,619.
Salt	2	2	All to El Salvador.
Stone:			
Construction	47	---	
Industrial	538	637	El Salvador 543; United States 31.
Other nonmetal minerals	18	714	Honduras 405; El Salvador 188.

[1] Less than ½ unit.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. October 12, 1966. 794 pp.

Table 3.—Guatemala: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Semimanufactures	551	834	France 165; Switzerland 130; Yugoslavia 130.
Copper and alloys:			
Unwrought, electrolytic, powder	11	81	United States 70.
Semimanufactures	187	192	Canada 47; Chile 46; United States 22.
Sulfate	15	31	United States 15; West Germany 10.
Iron and steel:			
Pig and sponge iron, powder	1,064	(1)	
Scrap	(1)	1	All to United States.
Ferroalloys	(1)	(1)	
Semimanufactures	57,562	72,153	Belgium-Luxembourg 41,704; West Germany 7,647.
Castings and forgings	37	11	West Germany 10.
Other	941	1,381	West Germany 674; Belgium 465.
Lead and alloys:			
Unwrought	21	70	United States 66.
Semimanufactures	6	39	Costa Rica 38.
Nonferrous base metals: Ores and concentrates	611	1,007	United States 795; Netherlands 200.
Silver and alloys .... troy ounces	20,351	1,479	United States 1,093; United Kingdom 322.
Tin and alloys, all forms ... long tons	48	49	United States 20; Japan 10.
Zinc and alloys:			
Unwrought	3	119	Canada 100; West Germany 10.
Semimanufactures	15	35	Nicaragua 14; Canada 10.
Nonmetals:			
Abrasives, natural:			
Diamond, industrial ..... carats	350,000	250,000	All from Mexico.
Emery, pumice and corundum	6	5	United States 4.
Asbestos:			
Crude, washed or ground	460	999	Canada 816.
Sheets, cord and plates, pure or mixed	12	NA	
Semimanufactures	80	NA	
Cement:			
Portland	788	1,497	Japan 400; Denmark 376; West Germany 331.
Asbestos	60	20	El Salvador 18.

See footnotes at end of table.

Table 3.—Guatemala: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Clays:			
Kaolin and clayey earth	280	191	United Kingdom 155; Mexico 23.
Refractory earth and rocks	92	62	All from United States.
Ordinary brick	86	33	Mainly from El Salvador.
Refractory brick	436	2,095	United States 848; Austria 134.
Diatomaceous earth	189	296	United States 292.
Fertilizers:			
Nitrogenous	17,426	33,680	West Germany 16,240; El Salvador 7,679.
Phosphatic	5,518	2,892	United States 2,487.
Potassic	837	26,365	Italy 25,677.
Mixed	17,402	48,645	Costa Rica 33,766; El Salvador 6.
Graphite	(1)	(1)	
Gypsum, calcined, powder	19	23	United States 19.
Lime	17	7	United Kingdom 4.
Marble	122	123	Italy 66; Mexico 16.
Mica, uncut	8	9	All from United Kingdom.
Quartz, crude	45	145	United Kingdom 132.
Salt, rock or sea:			
Crude	1,460	1,524	El Salvador 1,452.
Refined	102	3,072	El Salvador 2,962.
Sand, gravel and crushed stone	21	9	United States 8.
Sodium carbonate	157	191	United States 176.
Sodium hydroxide	3,654	2,896	United States 2,781.
Stone:			
Dimension	6	82	Italy 66; Mexico 16.
Industrial	32	61	Italy 38; United States 19.
Sulfur, all forms	2	---	
Talc	118	177	United States 135; Italy 25.
Mineral fuels:			
Asphalt, natural	3	159	Netherlands 92; El Salvador 53.
Coal	33	61	West Germany 29; United States 22.
Coke	141	205	United States 93; Netherlands 65.
Briquets	3	---	
Gas, manufactured	(1)	NA	
Natural gas, all forms	5,985	9,718	Venezuela 6,597; United States 2,483.
Petroleum:			
Crude and partially refined	191,795	286,817	Venezuela 265,460.
Refinery products:			
Gasoline	91,357	66,893	Netherlands Antilles 44,735; El Salvador 15,973.
Kerosine	45,068	20,217	El Salvador 9,784; Netherlands Antilles 9,543.
Diesel, gas oil, and others	275,384	119,991	El Salvador 53,474; Netherlands Antilles 30,005; Venezuela 19,303.
Lubricants, including greases	10,015	11,115	United Kingdom 7,827; Netherlands Antilles 1,306.
Paraffin, vaseline and waxes	7,469	50	All from United Kingdom.
Asphalt, coke, and others	6,205	420	Venezuela 293; United Kingdom 121.

[1] Less than ½ unit.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. October 12, 1966. 794 pp.

Guinea

Table 1.—Guinea: Production of mineral commodities
(Metric tons unless otherwise specified)

Commodity[1]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite________thousand tons__	1,468	1,664	1,678	1,870	1,609
Alumina______________________	458,432	480,035	484,350	522,142	525,810
Iron ore___________thousand tons__	700	662	[r] 908	[r] 755	[e] 1,600
Nonmetals:					
Diamond:					
Gem_________________carats__	[2] 140,000	[2] 22,000	[3] 20,568	[e] 21,000	[e] 21,000
Industrial______________do____	[2] 210,000	[2] 32,000	[3] 51,166	[e] 51,000	[e] 51,000

[e] Estimate. [r] Revised.

[1] In addition to commodities listed, gold, simple construction materials, and clay products were also produced, but quantitative data on output, were not available.

[2] Sales on tender; not necessarily true indigenous output.

[3] Exports.

Guyana

Table 1.—Guyana: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite:					
Crude ore [2]	2,762,637	2,379,883	2,507,774	2,918,693	[e] 2,909,000
Dried [3]	1,488,784	989,805	854,056	1,277,783	[p] 1,537,000
Calcined [3]	361,995	370,395	470,413	493,736	[p] 512,000
Alumina [3]	218,084	225,650	296,255	279,070	[p] 292,000
Gold troy ounces	1,903	2,847	2,111	2,077	3,045
Manganese ore and concentrates	275,454	142,728	118,757	168,861	182,889
Nonmetals:					
Diamond, gem and industrial [4] carats	100,145	99,748	109,682	112,874	92,085
Sand	NA	NA	NA	NA	1,080,000
Stone, rough or crushed	35,507	11,892	NA	94,688	120,000

[e] Estimate. [p] Preliminary. NA Not available.

[1] In addition to the commodities tabulated, Guyana produces clay, gravel, additional quantities of stone, and several types of macadam materials, but quantitative data are not available.

[2] Production on which royalties were collected by the government. Data apparently not corrected for free moisture content.

[3] Data for actual output not available. Shipments for export used as best available measure of output. Figure for 1962 is official export record; data for 1963–65 are company shipments reported by Reynolds Metals Co. and Barclay's Bank DCO of Georgetown; 1966 figure is an estimate computed from official data.

[4] Gem quality stones estimated at 55 to 60 percent of total production.

Table 2.—Guyana: Exports of principal mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite:			
Dried	(2)	[r] 1,284,116	Canada 904,301; United States 373,684.
Calcined	(2)	[r] 502,445	United States 230,326; United Kingdom 58,670; Canada 56,988.
Total	1,340,461	[r] 1,786,561	
Alumina	249,130	[r] 279,704	Canada 120,117; Norway 75,282.
Manganese ore and concentrate	138,309	[r] 160,180	All to Trinidad and Tobago.[3]
Nonmetals:			
Diamond, uncut and cut but unset carats	103,796	102,577	United Kingdom 45,412; United States 21,802.
Stone: [4] Broken stone, gravel, macadam.	1,977	1,283	All to Surinam.

[r] Revised.

[1] In addition to commodities tabulated, Guyana exports relatively small quantities of ferrous and nonferrous metal scrap, a few ounces of locally produced gold, minor amounts of clay, and also reexports relatively small amounts of various commodities of foreign origin; however, 1962 is the latest year for which complete data on such exports have been published.

[2] Official statistics classifying dried and calcined bauxite products separately are not available for 1963, and preliminary data published for 1964 may not reflect correct classification for all exported bauxite; company shipment data, differing slightly in total from official totals, were as follows: 1963—989,805 metric tons of dried and 370,395 tons of calcined bauxite; 1964—854,056 tons of dried and 470,413 tons of calcined.

[3] In transit. Most of quantity shown was destined for transshipment to the United States.

[4] Imports from Guyana by Surinam.

Sources: The Statistical Bureau, Ministry of Economic Affairs, British Guiana: Monthly account relating to external trade, December (cumulative) 1964 and 1965; Barclays Bank D.C.O., London: The external trade of British Guiana for 1963 and 1964, Overseas Review, May 1965; Geological Survey Department, British Guiana: Report on the Geological Survey Department for the year 1963; and Algemeen Bureau voor de Statistiek, Suriname: Maandstatistiek van de in-en uitvoer per goederensoort en per land December (cumulative), 1963–1965.

Table 3.—Guyana: Imports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys: Semimanufactures	412	NA	
Copper and alloys: Semimanufactures	37	NA	
Iron and steel:			
Pig iron, ingots, other primary forms	233	NA	
Bars, rods, angles, shapes, and sections	6,750	5,135	Belgium 2,474; United Kingdom 1,933.
Universals, plates, and sheets:			
Uncoated	3,767	3,186	United Kingdom 2,136; Belgium 508.
Galvanized, corrugated	1,470	3,091	United Kingdom 1,308; Belgium 746.
Steel tubes and fittings	1,371	1,602	United Kingdom 993; Norway 294.
Lead and alloys: Semimanufactures	17	NA	
Silver: Wrought and partly wrought troy ounces	3,260	NA	
Tin and alloys: Unwrought and semimanufactures long tons	19	NA	
Nonmetals:			
Asbestos and asbestos-cement building materials	914	2,022	Mainly from United Kingdom.
Cement	24,583	30,375	Trinidad and Tobago 22,617; Venezuela 4,550.
Fertilizer materials:			
Nitrogenous: Ammonium sulfate	17,195	21,775	Trinidad and Tobago 18,488; West Germany 3,201.
Phosphatic:			
Superphosphates	1,249	NA	
Other	1,428	NA	
Potassic	2,037	NA	
Lime	1,670	1,330	Mainly from United Kingdom.
Limestone, agricultural, ground	13,808	9,801	Mainly from Barbados.
Salt	2,604	NA	
Sodium hydroxide	51,818	41,085	Mainly from United States.
Mineral fuels:			
Asphalt, natural	194	NA	
Coal	147	NA	
Coke	3	NA	
Fuel briquets	105	NA	
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	176	194	All from Trinidad and Tobago.
Kerosine do	162	182	Do.
Gas oil do	330	325	Do.
Diesel oil do	58	60	Do.
Residual fuel oil do	1,719	1,665	Mainly from Trinidad and Tobago.
Lubricating oil do	17	[r] 20	United Kingdom 11; United States 5.
Lubricating greases	241	355	United States 153; United Kingdom 125.
Paraffin	34	NA	
Petroleum jelly	55	NA	
Road oil	662	NA	
Asphalt, refinery	1,573	NA	
Mineral tar	140	NA	

[r] Revised. NA Not available.

[1] Published official data for 1964 and 1965 lack detail in several classifications. For some commodities, supplementary data from other sources are used.

Haiti

Table 1.—Haiti: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum ore: Bauxite, dried	441,643	384,000	[r] 437,160	[r] 382,588	361,426
Products of copper mining:					
Ore milled	255,825	254,478	241,189	212,934	198,444
Concentrates produced	15,422	16,181	12,655	10,223	9,069
Content of concentrates:					
Copper	4,280	5,884	5,029	3,960	2,730
Gold ... troy ounces	7,149	6,778	8,090	6,719	5,071
Silver ... do	94,761	107,022	92,057	77,488	50,690
Nonmetals:					
Cement ... thousand tons	[r] 57	[r] 50	56	42	38
Lime [e]	160,000	160,000	160,000	160,000	NA
Limestone [e]	389,000	393,000	394,000	376,000	370,000
Salt, marine [e]	10,400	10,400	10,400	10,400	10,000

[e] Estimate. [r] Revised. NA Not available.

Sources: Canadian Mines Handbook 1966–67. Page 90. Other: Department of State Airgram A–372. May 6, 1966, Port-au-Prince, 2 pp.

Table 2.—Haiti: Exports of mineral commodities

(Metric tons)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum: Ore (bauxite)	457,655	427,799	All to United States.
Copper:			
Concentrates	15,045	10,221	Japan 7,272; Spain 2,949.
Scrap	---	127	Germany 55; United Kingdom 43.
Iron: Scrap	80	211	Germany 201.
Nonmetals: Cement	---	81	All to Martinique.

Note: Source does not distinguish between East and West Germany.

Sources: Haiti, Report Annuel de L'Administration Generale des Douanes pour l'Exercise Octobre 1964–Septembre 1965.

Table 3.—Haiti: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum, including alloys, all forms	88	129	Italy 77; United States 33.
Copper, including alloys, all forms	10	23	Mainly from United States.
Iron and steel:			
Iron ore and concentrate	2	2	Do.
Pig iron, sponge iron, ferroalloys and steel powders.	100	41	Mainly from Belgium.
Ingots and other primary forms	101	1	Mainly from Germany.
Semimanufactures	6,981	6,024	Mainly from Belgium.
Lead, including alloys, all forms	2	(1)	
Platinum and platinum group metals, unworked or partly worked troy ounces	579	836	Mainly from United States.
Silver, unworked or partly worked do	322	804	Mainly from Germany.
Tin, including alloys, all forms long tons	80	174	Mainly from United States.
Zinc, including alloys and semimanufactures	14	1	Mainly from Belgium.
Nonferrous metals, ore and concentrate, not specified.	3	(1)	
Nonmetals:			
Abrasives, natural, including industrial diamond kilograms	226	682	Mainly from United States.
Asbestos cement building materials	200	217	Belgium 212.
Cement, not further specified	258	346	Denmark 111; France 106.
Clay and similar refractory materials	63	58	Germany 42.
Clay products, nonrefractory	132	66	Czechoslovakia 22; Japan 19.
Fertilizer materials:			
Nitrogenous	6	---	
Phosphatic	46	5	All from United States.
Potassic	25	26	Italy 16.
Gem stones kilograms	8	NA	
Graphite kilograms	99	(1)	
Lime	2	---	
Mica, worked kilograms	---	260	Mainly from United States.
Refractory bricks and similar products	55	56	Do.
Salt	71	80	United States 50; Canada 28.
Sodium carbonate (soda ash)	40	46	France 30; United States 15.
Stone, sand and gravel	3	6	All from United States.
Sulfur	3	---	
Other, not specified	11	44	Mainly from United States.
Mineral fuels:			
Coal and coke	75	50	Mainly from Germany.
Asphalt, natural	52	138	Venezuela 55; United States 51.
Mineral tar and crude chemicals from coal, petroleum and natural gas.	8	(1)	
Petroleum:			
Crude and partly refined	44	---	
Gasoline 42-gallon barrels	270,590	62,893	Mainly from Curacao.
Kerosine do	27,510	3,407	Do.
Fuel oils	51,360	36,627	Do.
Lubricants	1,263	1,396	Mainly from United States.
Paraffin and vaseline	256	147	United States 67; Netherlands 48.
Other[2]	40	20	Mainly from United States.

[1] Less than ½ unit.
[2] May include some products derived from coal and natural gas.
Note: Haiti trade returns do not differentiate East and West Germany.

Source: L'Administration Generale des Douanes, Rapport Annuel pour L'Exercise. Octobre 1964–Septembre 1965, pp. 125.

Honduras

Table 1.—Honduras: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony	NA	NA	NA	NA	59
Cadmium, content of concentrates	14	87	105	97	109
Gold troy ounces	2,811	3,070	3,401	4,090	4,274
Iron and steel semimanufactures	---	---	---	[1] 2,331	5,064
Lead, content of concentrates	5,917	9,900	7,484	9,654	11,704
Silver thousand troy ounces	3,180	[e] 3,164	3,220	3,671	3,734
Zinc, content of concentrates	6,584	10,730	8,568	11,126	12,393
Nonmetals:					
Cement	55,913	60,480	72,843	93,966	105,020
Gypsum	3,791	2,985	4,720	6,039	11,780
Lime, calcined [2]	684	544	916	840	NA
Limestone	NA	NA	118,114	115,215	153,430
Salt	[e] 10,000	[e] 10,000	[e] 10,000	[e] 10,000	[e] 10,000

[e] Estimate. NA Not available.

[1] Production commenced in May 1965.

[2] Consumption at El Mochito mine only.

Table 2.—Honduras: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Copper	---	5	All to West Germany.
Gold troy ounces	3,255	4,291	All to United States.
Iron and steel, scrap and semimanufactures	28	753	El Salvador 549; Nicaragua 114.
Lead, ore and concentrate	10,387	15,700	All to United States.
Silver, all forms thousand troy ounces	3,220	8,015	Do.
Zinc, ores and concentrates	10,860	19,650	Do.
Other:			
Nonferrous ores and concentrates	1,814	35	All to United States.
Nonferrous alloys and scrap	35	254	El Salvador 212.
Nonmetals:			
Cement:			
Asbestos	191	NA	
Portland	22,338	32,259	El Salvador 23,291.
Gypsum	1,654	1,759	All to El Salvador.
Lime	9	91	Do.
Salt	5,909	6,334	El Salvador 4,085; Nicaragua 2,067.
Stone:			
Dimension	33	---	
Industrial, n.e.s.	38	9	All to El Salvador.
Other nonmetallic minerals	4	[1] 2,576	El Salvador 2,270; Nicaragua 306.

[1] Includes asbestos cement.

Source: Anuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. Oct. 12, 1966. 794 pp.

Table 3.—Honduras: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, all forms	234	225	United States 150; El Salvador 30; West Germany 19.
Copper and alloys:			
Metal, all forms	49	50	United States 35.
Sulfate	34	56	All from United States.
Iron and steel:			
Pig iron	2	14	United States 10; Nicaragua 4.
Scrap	3	3	United States 2.
Ingot and equivalent forms	1,895	4,016	Belgium-Luxembourg 2,923; United Kingdom 533.
Semimanufactures	13,565	22,460	United States 7,975; Belgium-Luxembourg 6,010.
Lead and alloys, all forms	44	57	Mainly from United States.
Nickel, all forms	NA	1	Do.
Silver and alloys troy ounces	772	2,958	Do.
Tin and alloys long tons	5	2	Do.
Zinc and alloys	49	26	Do.
Other:			
Nonferrous metals	1	5	Do.
Nonferrous minerals	4	(1)	Do.
Nonmetals:			
Abrasives:			
Corundum and emery	(1)	1	Do.
Diamond, industrial carats	35,000	---	
Asbestos	970	712	Mainly from Canada.
Cement:			
Asbestos	565	1,638	El Salvador 1,115; Guatemala 430.
Portland	5,804	4,169	El Salvador 3,240; Denmark 332.
Clay and clay products:			
Kaolin	6	32	United States 31.
Refractory and common	66	12	All from United States.
Brick:			
Nonrefractory	34	22	Mainly from El Salvador.
Refractory	175	382	United States 299; El Salvador 83.
Diatomaceous earth	86	107	United States 98; Canada 9.
Fertilizers:			
Nitrogenous	14,799	21,060	West Germany 6,988; Netherlands 7,579.
Phosphatic	3,204	3,006	Mainly from United States.
Potassic	5,991	6,265	Do.
Mixed	2,859	1,907	El Salvador 751; Costa Rica 494.
Graphite	3	4	United States 2; United Kingdom 1.
Gypsum:			
Crude	(1)	7	All from United States.
Calcined	16	19	Mainly from United States.
Lime, all types	556	299	Denmark 217.
Marble	10	47	Mainly from El Salvador.
Quartz	45	29	Mainly from United States.
Salt	1,646	2,371	Mainly from El Salvador.
Sodium carbonate	50	120	United Kingdom 100; United States 18.
Sodium hydroxide	922	643	United Kingdom 337; Netherlands 153.
Stone:			
Industrial, not specified	---	7	All from United States.
Sand, gravel, crushed rock	24	38	Do.
Sulfur	111	321	United States 175; West Germany 146.
Talc, natural or ground	17	34	Italy 25; United States 8.
Mineral fuels:			
Coal	189	77	United States 76.
Coke	10	10	All from West Germany.
Mineral tar and products	2,481	245	United States 238.
Natural gas liquids	1,289	1,396	Venezuela 1,297.
Petroleum:			
Crude and partly refined	69,613	69,913	Netherlands Antilles 54,403; Trinidad and Tobago 10,649.
Refinery products:			
Gasoline	51,464	49,458	Netherlands Antilles 39,628; United States 6,304.
Kerosine	15,158	17,060	Netherlands Antilles 12,413; Jamaica 2,166.
Distillate fuel oil	84,885	91,496	Netherlands Antilles 65,429; Jamaica 18,503.
Lubricants, including greases	4,138	3,623	United Kingdom 2,624; Netherlands Antilles 502.
Paraffin, vaseline, and waxes	648	798	United States 753.
Asphalt and coke	2,746	2,342	Netherlands Antilles 2,184; United States 144.

Source: Annuario Estadístico Centroamericano de Comercio Exterior—1965. SIECA. Oct. 12, 1966. 794 pp.

Hong Kong

Table 1.—Hong Kong: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Iron ore concentrate__________thousand tons__	113	114	116	134	137
Tungsten ore (wolframite) 60 percent WO_3 basis_	16	8	1	[r] 7	9
Nonmetals:					
Cement____________________thousand tons__	212	217	215	241	247
Feldspar________________________________	952	1,707	1,581	1,137	1,365
Graphite________________________________	818	808	721	---	---
Kaolin__________________________________	6,476	5,099	5,124	4,787	5,863
Quartz__________________________________	4,220	3,040	1,649	1,939	2,892
Mineral fuels:					
Coke and breeze_____________thousand tons__	17	15	13	[r] 13	10

[r] Revised.

Table 2.—Hong Kong: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and aluminum products___	2,803	2,337	South Viet-Nam 942; United Kingdom 604; Ceylon 449.
Aluminum scrap__________________	1,008	1,479	Japan 1,011; Taiwan 438.
Brass and bronze scrap_____________	4,904	4,912	Japan 4,082.
Copper scrap____________________	908	1,228	West Germany 347; Taiwan 237; Japan 216; Netherlands 169.
Iron and steel:			
Iron ore________thousand tons__	132	145	All to Japan.
Semimanufactured products do____	56	69	Thailand 53.
Scrap_________________do____	151	129	Japan 90; Taiwan 38.
Nonmetals:			
Cement:			
Exports_________thousand tons__	8	10	Indonesia 6; Oceania 3.
Reexports_______________do____	16	12	Indonesia 9; Macau 2.
Feldspar and fluorspar_____________	597	525	Philippines 300; Thailand 204.
Graphite:			
Exports______________________	467	357	United States 203; Singapore 110.
Reexports____________________	394	156	Thailand 125.
Gravel, crushed stone, and tarred macadam.	8,088	4,655	Brunei 3,705; Indonesia 916.
Kaolin__________________________	2,947	3,724	Japan 2,745; Taiwan 979.
Quartz__________________________	542	652	Thailand 623.
Mineral fuels (reexports):			
Petroleum refinery products:			
Gasoline______42-gallon barrels__	16,796	25,279	Macau 22,260; Taiwan 1,973.
Kerosine_______________do____	31,066	37,964	Macau 37,557.
Gas oil________________do____	40,298	19,755	All to Macau.
Diesel oil_______________do____	19,331	22,993	Macau 22,907.
Fuel oil________________do____	5,648	10,720	All to Macau.
Lubricating oils__________do____	61,324	111,557	Taiwan 26,916; Thailand 25,001.
Other mineral oils and blended oils_________42-gallon barrels__	97	120	All to Taiwan.
Greases______________________	32	46	Indonesia 23; Japan 9.
Petroleum jelly_________________	29	112	Saudi Arabia 62; Taiwan 17.
Waxes_______________________	127	658	Taiwan 431; Singapore 188.

Source: Hong Kong Trade Statistics. Exports and Reexports. December, 1965. Commerce and Industry Department, Hong Kong. 481 pp.

Table 3.—Hong Kong: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and aluminum products	15,910	10,465	Canada 3,265; Japan 2,387; Australia 1,408.
Copper and copper alloys	12,708	9,740	Japan 6,405; United Kingdom 2,050.
Gold thousand troy ounces	NA	NA	
Iron and steel:			
Iron ore	1,570	9,995	All from mainland China.
Scrap, iron and steel thousand tons	60	93	United Kingdom 38; West Germany 30.
Pig iron (sponge)	7,578	9,887	North Korea 3,414; mainland China 3,326; North Viet-Nam 2,852.
Ferroalloys	185	154	Mozambique 41; Republic of South Africa 38.
Semimanufactures thousand tons	373	528	Japan 244; mainland China 132.
Ingots and equivalent forms	818	8,222	Belgium 2,530; United Kingdom 2,021; West Germany 1,776; Japan 1,496.
Lead and lead products	607	917	North Korea 600; Australia 81.
Platinum (unworked) troy ounces	24,382	22,049	West Germany 17,223; United Kingdom 2,318.
Silver (unworked) do	106,596	278,800	North Korea 129,527; Japan 73,356; Macau 43,392.
Zinc:			
Scrap	265	64	Singapore 32; Malaya 25.
Ingots and equivalent forms	8,310	3,548	Australia 2,211; North Korea 705.
Semimanufactures	538	348	Belgium 74; mainland China 67.
Nonmetals:			
Cement thousand tons	1,809	1,116	Mainland China 715; Japan 210.
Diamonds, gem carats	193,469	383,316	Belgium 153,465; Israel 109,742.
Fertilizers thousand tons	7	7	West Germany 5.
Gravel, crushed stone and tarred macadam.	12,233	4,661	Mainland China 2,880; Taiwan 668.
Gypsum	10,148	10,027	Australia 7,924; mainland China 1,340.
Lime thousand tons	63	66	Mainland China 45; North Viet-Nam 11.
Limestone do	234	329	Japan 231; mainland China 98.
Quartz	2,891	3,417	All from mainland China.
Salt thousand tons	33	32	Mainland China 25; Thailand 3.
Mineral fuels:			
Coal thousand tons	175	172	Mainland China 112; Australia 45.
Coke	6,321	5,520	Japan 4,120; Taiwan 930.
Petroleum refinery products:			
Gasoline 42-gallon barrels	685,177	767,858	Singapore 551,798; Bahrain 178,671.
Kerosine do	1,059	1,065	Singapore 444; Japan 213; Bahrain 171.
Jet fuel do	771,638	1,252,675	Japan 445,597; Singapore 419,303; Saudi Arabia 138,774.
Gas oil do	503,880	689,348	Iran 356,753; Bahrain 220,020.
Diesel oil thousand 42-gallon barrels	1,697	1,795	Singapore 1,456.
Fuel oil do	8,348	9,247	Singapore 6,324; Iran 2,288.
Lubricating oil 42-gallon barrels	202,387	210,411	United States 89,684; Netherland West Indies 45,138; Singapore 37,477.
Other mineral oils and blended oils 42-gallon barrels	3,939	5,146	United Kingdom 3,248; mainland China 1,672.
Bitumens	3,870	13,042	Singapore 6,451; Japan 3,684; Taiwan 1,514.
Bitumen and mineral mixtures	216	332	United Kingdom 252.
Petroleum jelly	411	298	United States 151; West Germany 90.
Pitch	46	75	United Kingdom 62.
Waxes	1,784	1,811	Indonesia 1,107; mainland China 301.
Byproducts of petroleum refinery	58	17	Japan 9; United States 8.

NA Not available.

Source: Hong Kong Trade Statistics. Imports. December, 1965. Commerce and Industry Department, Hong Kong. 236 pp.

Hungary

Table 1.—Hungary: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Bauxite thousand tons	1,473	1,363	1,477	1,478	1,429
Alumina	232,972	239,002	245,917	267,000	288,000
Metal:					
Ingots	52,732	55,496	56,874	58,099	60,496
Semimanufactures, unalloyed	15,474	16,663	17,615	[r] 16,769	[e] 17,000
Semimanufactures, alloyed	4,423	5,114	5,050	[r] 6,242	[e] 7,000
Iron and steel:					
Iron ore thousand tons	682	733	775	762	747
Pig iron:					
For steel do	1,266	1,285	1,404	1,513	NA
For foundry do	112	101	89	NA	NA
For spiegeleisen do	4	2	1	NA	NA
Total do	1,382	1,388	1,494	1,582	1,646
Ferroalloys do	19	12	6	7	[e] 7
Steel ingots do	2,333	2,374	2,365	2,520	2,648
Rolled products:					
Bars, rods, shapes, sections do	856	801	822	NA	NA
Concrete reinforcement bars do	84	94	109	NA	NA
Plates and sheets:					
Thick do	226	220	215	NA	NA
Medium do	220	254	250	NA	NA
Black and thin do	87	119	161	NA	NA
Pickled do	17	16	17	NA	NA
Galvanized do	7	6	7	NA	NA
Tinplate do	3	8	3	NA	NA
Dynamo sheets do	8	8	8	NA	NA
Transformer sheets do	3	3	3	NA	NA
Cold-rolled bright sheets do	4	5	4	NA	NA
Total do	575	634	668	NA	NA
Rails and fish plates do	95	97	52	NA	NA
Total do	1,610	1,626	1,651	1,718	[e] 1,800
Manganese ore	129,226	152,371	171,196	[r] 213,000	[e] 215,000
Nonmetals:					
Bentonite	84,108	112,697	98,384	[r] 107,000	[e] 110,000
Cement thousand tons	1,733	1,798	2,257	2,383	2,601
Dolomite	430,769	431,801	482,114	[r] 560,000	[e] 580,000
Fertilizer materials:					
Nitrogenous:					
Gross weight	353,110	386,950	448,762	724,119	[e] 800,000
Nitrogen content	72,329	79,301	91,958	148,000	[e] 160,000
Phosphatic:					
Gross weight	429,068	516,510	543,545	615,431	[e] 650,000
Phosphorous pentoxide (P_2O_5) content	73,845	88,368	99,931	117,000	[e] 120,000
Kaolin	40,818	44,234	50,338	[r] 54,000	NA
Lime, calcined	621,166	633,223	735,629	709,104	[e] 773,000
Quartzite	37,787	35,937	42,360	[r] 40,000	[e] 40,000
Refractories:					
Magnesite products	63,034	56,648	64,278	[e] 65,000	NA
Shamotte products	178,941	185,680	181,470	[e] 183,000	NA
Silica products	10,988	11,308	12,702	[e] 13,000	NA
Sulfur, elemental	3,633	2,985	3,099	[r] 3,450	[e] 3,500
Mineral fuels:					
Coal:					
Bituminous thousand tons	3,343	3,710	4,125	4,362	4,360
Brown do	20,649	21,934	22,363	22,190	21,563
Lignite do	4,662	4,836	5,060	4,885	4,425
Total do	28,651	30,479	31,548	31,437	30,348

See footnotes at end of table.

Table 1.—Hungary: Production of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966 [p]
Mineral fuels—Continued					
Coke:					
Oven and beehive thousand tons	654	660	665	642	646
Other (including breeze) do	551	554	544	605	[e] 620
Total do	1,205	1,213	1,209	1,247	NA
Fuel briquets do	1,189	1,226	[r] 1,301	[r] 1,340	[e] 1,450
Gas:					
Natural million cubic feet	12,692	[r] 22,816	[r] 29,275	41,318	57,958
Manufactured do	14,232	15,646	16,873	[r] 18,673	NA
Petroleum:					
Crude thousand tons	1,641	1,756	1,801	1,802	1,705
Natural gasoline	27,508	26,391	22,037	20,762	NA
Refinery products:					
Gasoline thousand tons	343	333	370	[r] 445	[e] 450
Kerosine do	68	72	38	21	NA
Diesel fuel do	861	861	970	1,045	1,236
Heating oil do	1,283	1,403	1,642	[r] 1,725	1,722
Lubricants:					
Oils do	101	102	111	106	NA
Greases do	19	19	19	19	NA
Paraffin, crude	5,404	4,963	5,520	5,655	NA
Bitumen, natural and refinery thousand tons	393	416	455	450	NA

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] In addition to reported commodities, Hungary is known to produce arsenic, copper, gold, lead (mine and smelter), silver, uranium, zinc, china clay, diatomite, and peat.

Sources: Kozponti Statisztikai Hivatal (Office of Statistical Council). Statisztikai Evkonyv 1964 (Statistical Yearbook for 1964) Budapest 1965, 439 pp. for years 1961 through 1964. Figures for 1965 were taken from U.S. Foreign Service dispatches from the U.S. Legation Budapest and Bureau of Mines files.

Table 2.—Hungary: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations in 1965
Metals:			
Aluminum:			
Bauxite thousand tons	761	564	Czechoslovakia 316; Poland 115; East Germany 100.
Alumina do	156	194	Poland 66; U.S.S.R. 59; Austria 31; East Germany 19.
Ingots	12,191	18,726	United Kingdom 9,376; Czechoslovakia 1,531; Bulgaria 911.
Iron and steel:			
Pig iron	67,333	82,839	Austria 36,485; Poland 20,000; Italy 18,380.
Rolled products, excluding pipes thousand tons	515	605	Czechoslovakia 191; Italy 60; West Germany 36.
Pipes and fittings	66,225	64,793	U.S.S.R. 10,249; Denmark 6,499; Yugoslavia 5,726.
Nonmetals:			
Cement	282,917	[1] 144,669	Yugoslavia 144,669.
Mineral fuels:			
Coke	107,320	90,577	All to Austria.
Petroleum refinery products:			
Gasoline	123,590	150,000	Poland 102,000; Austria 29,000.
Kerosine	211	NA	
Diesel fuel	166,833	155,000	West Germany 95,000; Switzerland 19,000; Yugoslavia 6,000.
Heating oil	262,720	178,000	All to Austria.
Lubricants	13,763	13,740	Syria 1,300; Undisclosed 12,440.
Bitumen	168,483	170,000	Czechoslovakia 60,000; Austria 35,000; West Germany 32,000; Yugoslavia 15,000.

[1] Partial figures.

Source: Kozponti Statisztikai Hivatal (Office of Statistical Council). Statisztikai Evkonyv 1965 (Statistical Yearbook for 1965). Budapest 1966, 423 pp.

Table 3.—Hungary: Imports of selected mineral commodities[1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Metals:			
Aluminum ingots	7,643	24,053	All from U.S.S.R.
Cadmium	[2] 5	[2] 2	All from U.S.S.R.
Chromite	29,682	NA	
Copper and copper products	22,722	[2] 7,200	All from U.S.S.R.[2]
Iron and steel:			
Iron ore thousand tons	2,662	2,481	U.S.S.R. 2,288; Yugoslavia 101; India 82.
Pig iron do	76	105	U.S.S.R. 100.
Ferroalloys do	19	25	U.S.S.R. 23.
Rolled products, excluding pipes do	647	575	Czechoslovakia 222; U.S.S.R. 127.
Pipes and fittings do	32	31	Austria 9; Czechoslovakia 5; Netherlands 5.
Lead, refined	12,427	NA	
Mercury 76-pound flasks	---	[2] 87	All from the U.S.S.R.[2]
Tin long tons	1,007	1,758	Indonesia 152; West Germany 109; United Kingdom 71.
Zinc	11,817	13,373	Poland 6,605; U.S.S.R. 1,900; Bulgaria 1,816.
Nonmetals:			
Asbestos	14,981	10,702	U.S.S.R. 8,100; United Kingdom 1,602.
Cryolite	[2] 1,100	[2] 1,000	All from the U.S.S.R.
Clay, calcined	60,437	68,452	Czechoslovakia 60,744.
Fertilizers:			
Nitrogenous	482,719	315,000	Austria 265,000; Bulgaria 28,000.
Potassic	203,314	199,000	East Germany 79,000; U.S.S.R. 70,000; Israel 38,000.
Phosphatic	178,177	107,000	U.S.S.R. 100,000; North Viet-Nam 7,000.
Fire clay	[2] 7,900	[2] 3,800	All from the U.S.S.R.
Graphite	[2] 1,400	[2] 1,300	All from the U.S.S.R.
Magnesite, calcined	58,968	69,376	Czechoslovakia 39,195.
Pyrites, bulk	207,524	145,000	Rumania 47,254.
Phosphate rock	482,330	429,000	U.S.S.R. 371.
Sulfur, elemental	165,608	159,000	Belgium-Luxembourg 100,000; U.S.S.R. 44,000.
Mineral fuels:			
Briquet	565	576	All from East Germany.
Coal, all kinds thousand tons	3,280	2,665	Poland 1,062; U.S.S.R. 1,000; Bulgaria 603.
Coke do	1,086	1,114	U.S.S.R. 577; Czechoslovakia 275; Poland 261.
Gas, natural million cubic feet	7,799	7,600	All from Rumania.
Petroleum:			
Crude thousand tons	2,026	2,251	U.S.S.R. 2,087; Egypt 120.
Refined products:			
Gasoline thousand tons	122	108	U.S.S.R. 106.
Diesel fuel do	225	160	U.S.S.R. 153.
Heating oils do	204	102	All from the U.S.S.R.
Lubricants do	29	31	Undisclosed.

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[1] Because Hungary publishes only limited data on foreign trade in minerals, this table has been compiled from Hungarian and Soviet sources. Much information is partial, and unless noted is from Statisztikai Evkonyv 1965 (Statistical Yearbook 1965) Budapest 1966, 423 pp.

[2] Source: Vneshnyaya Torgovlya S.S.S.R. za 1965 god. (Foreign Trade of the U.S.S.R. for 1965). Moscow 1966, 324 pp.

Iceland

Table 1.—Iceland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metal scrap (exports):					
Iron and steel	NA	2,314	3,274	1,238	NA
Other	NA	154	166	277	NA
Nonmetals:	97,000	98,500	108,100	114,100	114,600
Fertilizer materials [1]:					
Gross weight	19,836	[e] 19,500	[e] 20,100	[e] 19,500	22,735
Nitrogen content	[e] 6,550	6,500	6,700	6,500	[e] 7,500
Limestone (shell sand) cubic meters	[e] 120,000	[e] 120,000	[e] 130,000	142,000	130,300
Pumice	[e] 6,500	12,500	10,000	[e] 10,000	[e] 10,000
Rhyolite	NA	NA	[e] 18,000	20,000	[e] 20,000

[e] Estimate. NA Not available.

[1] For 1963–65, quantities indicated are for agricultural period ending in year stated.

Table 2.—Iceland: Mineral commodity trade

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations or sources, 1965
	EXPORTS		
Metals:			
Iron and steel scrap	3,274	1,238	All to West Germany.
Nonferrous metal scrap	166	277	Netherlands 208.
Nonmetals:			
Cement	NA	NA	NA.
	IMPORTS		
Metals:			
Aluminum and alloys, unwrought and semimanufactures.	381	365	West Germany 92; United Kingdom 58; Norway 49.
Copper and alloys, unwrought and semimanufactures.	221	265	United Kingdom 98; West Germany 94.
Iron and steel:			
Pig iron, scrap, ferroalloys and similar materials.	263	182	United Kingdom 152.
Steel:			
Billets and other crude forms	116	13	Denmark 6; West Germany 5.
Semimanufactures			
Bars, rods, sections	11,465	14,693	U.S.S.R. 5,216; Czechoslovakia 2,359.
Plates and sheets	7,490	10,590	Belgium 2,201; United Kingdom 1,926.
Tubes, pipes and fittings	4,470	4,296	U.S.S.R. 1,171; West Germany 966.
Other	1,326	1,076	Poland 291; United Kingdom 254.
Total	24,751	30,655	
Lead and alloys:			
Unwrought	267	235	Denmark 93; Netherlands 68.
Semimanufactures	142	133	West Germany 84.
Platinum group metals, unwrought and semimanufactures	$2	$14	
value, thousand dollars	$2	$14	All from West Germany.
Silver and alloys, unwrought and semimanufactures troy ounces [1]	35,366	41,796	United Kingdom 35,366.
Tin and alloys long tons	16	18	United Kingdom 13.
Titanium dioxide	20	259	Japan 132; United Kingdom 73.
Zinc and alloys:			
Unwrought	12	8	All from Belgium.
Semimanufactures	81	77	Belgium 29; West Germany 22.
Other:			
Metallic oxide and hydroxide, n.e.s.	30	36	West Germany 8; United States 8.
Metals and alloys, n.e.s.	4	5	Mainly from Denmark and Sweden.

See footnotes at end of table.

Table 2.—Iceland: Mineral commodity trade—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations or sources, 1965
Nonmetals:			
Barite and witherite	55	47	Denmark 18; West Germany 16.
Cement	85	93	Denmark 56; West Germany 35.
Chalk	119	122	Denmark 57; United States 31.
Clay and clay products:			
Clays	84	167	United States 98; Denmark 55.
Construction materials:			
Nonrefractory	875	892	Japan 375; Sweden 292.
Refractory	870	572	Sweden 336.
Diamond [2] and other precious and semiprecious stones value, thousand dollars	$5	$5	Switzerland $4.
Diatomite and other siliceous earths	614	519	All from Denmark.
Fertilizers; Manufactured:			
Nitrogenous	10,430	11,483	Norway 8,311; Netherlands 2,156.
Phosphatic	5,174	8,271	Norway 5,221; Netherlands 2,346.
Potassic	8,159	11,259	West Germany 6,000; Belgium 3,165.
Other	4,588	66	Netherlands 46.
Ammonia	12	4,474	Norway 4,464.
Gypsum and plasters	9,779	4,171	Poland 4,150.
Lime	1,699	1,460	Denmark 1,003; West Germany 430.
Pyrite, unroasted	40	NA	
Quartz and quartzite	42	46	United States 40.
Salt	53,231	52,059	Spain 41,599; Norway 3,842.
Sodium and potassium hydroxides	504	465	France 283.
Stone, sand and gravel:			
Dimension stone, all types, including worked.	70	85	Norway 27; Sweden 25.
Other stone, n.e.s., including gravel	39	101	West Germany 80.
Sand	52	43	Belgium 40.
Sulfur:			
Elemental, including refined	7	6	NA.
Sulfuric acid, including oleum	93	110	Denmark 64.
Talc and steatite	17	52	Norway 45.
Other mineral substances, n.e.s.	21	29	Denmark 14; Japan 5.
Mineral fuels:			
Asphalt and bitumen, natural	423	840	Poland 663.
Coal, including briquets	12,720	8,037	Poland 7,379; U.S.S.R. 630.
Coke and semicoke	874	940	Poland 625; U.S.S.R. 300.
Lignite and peat	3	3	United States 2.
Petroleum refinery products:			
Aviation gasoline	15,231	15,510	United Kingdom 10,749.
Motor gasoline	42,831	48,005	U.S.S.R. 47,987.
Jet fuel	3,690	17,249	United Kingdom 12,419.
Kerosine, including white spirit	4,777	514	Netherlands Antilles 297.
Distillate fuel oil	250,090	262,878	U.S.S.R. 225,709; Rumania 32,121.
Residual fuel oil	101,634	117,948	All from U.S.S.R.
Lubricants, including grease	4,459	4,796	United Kingdom 2,315; Netherlands 1,255.
Liquefied petroleum gases	319	374	Denmark 264.
Bitumen and other	2,861	3,567	Poland 3,017; United States 160.
Total	425,882	470,828	
Crude chemicals from distillation of coal, petroleum or natural gas.	112	118	Denmark 60; United Kingdom 41.

NA Not available.

[1] Calculated from quantities reported in metric tons.

[2] Including synthetic or reconstructed stones.

India

Table 1.—India: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite thousand tons	[r] 577	565	591	706	750
Metal	35,403	55,230	56,667	67,169	83,282
Antimony, smelter	661	909	840	848	877
Beryl [2]	136	---	---	[r] 1,367	454
Chromite	[r] 66,648	[r] 65,042	[r] 34,969	59,672	77,656
Copper:					
Ore thousand tons	492	474	473	468	481
Metal content of ore	9,900	10,010	10,481	10,118	10,300
Smelter (fire refined)	9,780	[r] 9,593	[r] 9,455	9,360	9,438
Gold troy ounces	163,326	[r] 138,409	[r] 148,504	[r] 130,628	120,244
Iron and steel:					
Ore [1] thousand tons	18,802	[r] 19,995	[r] 21,363	[r] 23,660	26,336
Pig iron do	5,796	6,603	6,593	6,968	7,082
Ferroalloys do	121	138	149	170	158
Steel ingots and metals for casting do	[r] 5,148	[r] 5,970	[r] 5,946	[r] 6,467	6,530
Semimanufactures do	3,564	4,257	4,343	4,515	4,534
Lead:					
Concentrate	6,384	5,920	6,148	5,496	5,151
Metal content of concentrate	4,595	4,316	4,505	3,981	3,734
Smelter	2,849	3,537	3,624	2,905	2,479
Manganese ore: [1]					
Over 35 percent Mn thousand tons	937	766	867	1,019	1,109
Under 35 percent Mn [3] do	546	309	396	485	496
Mn content not disclosed do	---	[e] 105	---	111	73
Total do	1,483	1,180	1,263	1,615	1,678
Monazite	2,933	2,429	NA	[e] 2,540	NA
Silver, smelter troy ounces	138,698	128,314	[r] 152,234	[r] 168,308	39,223
Titanium:					
Ilmenite thousand tons	138	26	[r] 12	30	30
Rutile	1,616	1,871	1,871	1,317	1,816
Tungsten, 60 percent WO_3 basis	11	5	9	[r] 15	27
Zinc:					
Concentrate	10,024	10,627	10,744	9,641	8,900
Metal content of concentrate	5,533	5,860	5,915	5,317	4,886
Nonmetals:					
Apatite	29,018	13,127	4,049	4,050	16,275
Asbestos	1,692	[r] 2,756	[r] 3,366	4,526	6,936
Barite	32,662	[r] 37,877	46,225	45,914	51,663
Calcite	13,541	13,554	12,862	20,331	17,751
Cement thousand tons	[r] 8,586	9,355	9,690	[r] 10,578	11,052
China clay do	390	[r] 503	[r] 519	[r] 587	644
Corundum	301	658	540	481	[e] 480
Diamond carats	1,131	1,432	2,260	4,466	1,812
Dolomite thousand tons	901	1,070	507	958	1,047
Feldspar	19,221	[r] 21,236	[r] 24,382	24,211	26,004
Fire clay thousand tons	346	368	360	425	450
Fluorspar	657	708	389	[r] 551	1,069
Garnet	415	404	286	224	176
Gypsum thousand tons	[r] 1,121	[r] 1,191	[r] 882	1,148	1,293
Kyanite	49,618	31,665	34,091	37,447	63,670
Limestone thousand tons	16,907	17,057	16,919	19,855	19,603
Magnesite do	213	235	208	239	232
Mica, block, splittings and scrap	[r] 31,188	[r] 34,075	[r] 29,891	[r] 37,531	32,977
Ocher	17,449	20,991	28,056	29,312	30,908
Quartz and silica	200,350	215,826	226,093	287,378	276,187
Salt thousand tons	[r] 3,896	[r] 4,551	4,647	4,703	4,508
Sillimanite	8,255	11,285	12,362	11,276	10,286
Steatite (soapstone) thousand tons	110	[r] 121	[r] 140	[r] 160	156
Vermiculite	433	677	[r] 429	[r] 732	500

See footnotes at end of table.

Table 1.—India: Production of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels:					
Coal.......thousand tons	61,370	[r] 65,956	62,440	[r] 69,500	70,536
Lignite.......do	211	[r] 999	1,569	2,300	2,568
Coke, all types.......do	[r] 9,272	[r] 9,745	[r] 10,142	[r] 11,193	10,766
Petroleum:					
Crude.......thousand 42-gallon barrels	8,016	12,266	16,965	[r] 22,494	[e] 34,228
Refinery products:					
Gasoline.......do	10,381	12,229	12,689	[r] 13,307	NA
Kerosine.......do	9,488	11,536	12,993	[r] 12,491	NA
Distillate fuel oil.......do	13,489	12,466	15,148	[r] 18,097	NA
Residual fuel oil.......do	11,041	13,369	15,183	[r] 15,990	NA
Lubricants.......do	176	274	286	[r] 292	NA
Other.......do	5,252	5,717	7,537	[r] 8,525	NA
Natural gas.......million cubic feet	[e] 8,000	[e] 10,000	[e] 12,000	[e] 18,000	NA
Carbon black	---	12,000	NA	14,470	NA

[e] Estimate. [r] Revised. NA Not available.

[1] Includes production of Goa.

[2] United States imports.

[3] Includes ferruginous manganese ore.

Indonesia

Table 1.—Indonesia: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Bauxite	[r] 461,200	493,111	647,805	[r] 688,259	[e] 700,000
Gold [1] ... troy ounces	4,469	4,437	[r] 5,813	[r] 6,752	[e] 5,000
Lead	------	------	650	NA	NA
Manganese ore	6,510	2,845	[r] 500	------	------
Monazite sand	139	153	140	25	NA
Nickel ore (3.5 percent nickel)	12,722	45,705	47,950	78,800	112,378
Silver ... thousand troy ounces	248	280	[r] 253	299	221
Tin:					
Concentrate, metal content ... long tons	17,310	[r] 12,927	16,345	[r] 14,699	12,526
Metal [e] ... do	2,000	2,000	1,800	1,800	1,510
Nonmetals:					
Asbestos	32	70	------	------	------
Asphalt rock	6,053	10,489	5,315	[r] 9,080	[e] 10,000
Cement ... thousand tons	505	330	439	[r] 365	[e] 365
Diamond ... carats	NA	NA	NA	[e] 2,000	[e] 3,000
Iodine (content of cuprous iodide) ... kilograms	4,373	4,983	4,904	1,642	NA
Phosphate rock	[r] 5,984	1,125	3,408	[r] 3,500	[e] 10,000
Salt:					
Government (reported) ... thousand tons	304	449	NA	252	[e] 250
Private (estimated) ... do	240	NA	NA	NA	NA
Total ... do	544	NA	NA	NA	NA
Sulfur	932	1,050	[r] 1,695	3,573	[e] 4,000
Mineral fuels:					
Coal	471,836	491,610	445,862	390,253	319,831
Briquets [e] ... thousand tons	10	10	10	10	10
Petroleum:					
Crude oil ... thousand 42-gallon barrels	167,771	[r] 165,002	169,250	178,190	169,118
Refinery products ... do	[e] 80,000	[e] 75,000	[e] 70,000	[e] 65,000	[e] 65,000
Natural gas ... million cubic feet	101,212	[e] 104,421	131,508	76,650	NA

[e] Estimate. NA Not available. [r] Revised.

[1] Officially reported Indonesian statistics representing government output; private production by small unorganized producers may be as much as 30,000 troy ounces per year.

Table 2.—Indonesia: Exports of selected metals and minerals to Japan [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Bauxite	614,869	563,952
Manganese ore	5,614	5,293
Nickel ores and concentrates	39,500	79,450
Tin metal ... long tons	117	------
Petroleum:		
Crude oil ... thousand 42-gallon barrels	40,820	38,856
Heavy fuel oil ... do	2,558	2,466
Distillate for petrochemical manufacture ... do	------	447

[1] Data shown in lieu of official Indonesian import figures.

Source: Official trade returns of Japan.

Iran

Table 1.—Iran: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Chromite [e]	90,000	100,000	120,000	150,000	175,000
Copper ore (3 to 4 percent copper)	5,000	5,200	5,200	8,835	11,000
Iron ore thousand tons	10	21	20	60	[e] 60
Lead:					
Content of ore [e]	10,000	10,000	15,000	17,000	20,000
Ingots (smelter output)	400	[e] 500	375	[e] 400	[e] 400
Manganese ore	[r] 5,500	[r] 15,000	[r] 32,000	[r] 34,000	[e] 38,000
Zinc, content of ore	7,500	[e] 10,000	15,000	15,000	17,000
Nonmetals:					
Barite	15,000	20,000	43,000	43,000	43,000
Cement, hydraulic thousand tons	[e] 745	[e] 745	[r] 745	[e] 785	1,394
Clay, china	NA	NA	6,970	9,600	NA
Gypsum [e] thousand tons	1,000	1,000	1,200	1,500	1,800
Magnesite	500	NA	5,473	NA	NA
Ochre	8,000	8,700	9,000	[e] 10,000	8,800
Salt thousand tons	246	345	220	225	225
Sulfur [e]	15,000	20,000	105,000	110,000	110,000
Mineral fuels:					
Coal, bituminous thousand tons	[r] 160	193	[r] 274	[e] 275	[e] 300
Coke do	[r] 13	[e] 20	[e] 20	[e] 25	[e] 25
Natural gas (gross production) million cubic feet	324,281	364,928	[r] 415,400	509,900	NA
Petroleum:					
Crude thousand 42-gallon barrels	481,939	538,107	618,731	688,215	771,234
Refinery products: [1]					
Gasoline do	22,630	23,629	22,515	23,660	24,901
Kerosine do	15,441	16,139	18,507	15,378	15,317
Jet fuel do	5,787	7,286	7,497	9,763	10,564
Distillate fuel oil do	22,870	22,262	21,094	22,035	23,411
Residual fuel oil do	52,032	60,611	66,229	68,092	70,589
Liquefied petroleum gas do	81	68	73	NA	295
Lubricating oil do	135	178	247	306	364
Bitumen do	1,424	1,078	1,227	1,105	1,376
Other do	3,294	1,190	1,412	1,339	1,563
Total do	123,694	[r] 132,441	138,801	NA	148,380

[e] Estimate. [r] Revised. NA Not available.

[1] Output of Abadan and Kermanshah refineries only; excludes output of Masjed-e Soleyman, Naft-e Shah, Alborz, and other topping plants, some small part of which may have been sold.

Iraq

Table 1.—Iraq: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Cement……………………thousand tons……	[r] 891	[r] 941	[r] 1,092	1,285	1,342
Gypsum [e]……………………do……	500	500	500	500	500
Salt……………………do……	38	31	[e] [r] 27	[e] 60	[e] 60
Mineral fuels: Petroleum:					
Crude……………thousand 42-gallon barrels……	366,832	422,581	461,961	[2] 482,461	[3] 505,428
Refinery products:					
Gasoline……………………do……	2,394	2,315	2,586	2,703	2,699
Kerosine and jet fuel……………do……	3,015	3,228	3,958	4,049	3,697
Distillate fuel oil……………do……	3,034	3,110	3,943	4,472	5,326
Residual fuel oil……………do……	7,044	6,796	7,732	8,565	5,691
Lubricants and other……………do……	162	[e] 681	618	544	[e] 550
Asphalt……………………do……	226	[e] 226	180	79	467
Liquefied petroleum gas……………do……	21	34	48	[e] 60	[e] 60
Refinery fuel and loss……………do……	1,656	989	1,595	[e] 722	NA

[e] Estimate. [r] Revised. NA Not available.

[1] For year Oct. 1, 1962 to Sept. 30, 1963.

[2] Includes an estimate of 5,000,000 barrels from Government-operated Naft Khaneh and Quayara fields.

[3] Includes 2,641,000 barrels from Government-operated Naft Khaneh and Quayara fields.

Table 2.—Iraq: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals:			
Cement……………………	377,576	481,523	Kuwait 184,189; United Arab Republic (Egypt) 103,840; Saudi Arabia 89,532; Bahrain 63,936; Qatar 17,711; Ceylon 10,090.
Mineral fuels: Petroleum:			
Crude……thousand 42-gallon barrels……	440,994	459,364	Individual country data not available. Continental distribution, in percent, was: Europe 76; Far East 11; Western Hemisphere 7; Africa 6.
Refinery products:			
Gasoline and distillate…………do……	199	NA	

NA Not available.

Table 3.—Iraq: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum, all forms	2,466	2,477	Lebanon 1,095; U.S.S.R. 605; mainland China 331; Belgium 284.
Copper, all forms	1,077	2,954	West Germany 1,332; Yugoslavia 558; Greece 227; Belgium 214; Austria 129; United Kingdom 112.
Iron and steel, all forms	195,965	211,597	Belgium 54,398; U.S.S.R. 48,557; India 17,742; West Germany 17,648; Japan 14,014; United Kingdom 11,993.
Other base metals, n.e.s.	NA	1,150	Netherlands 318; United Kingdom 286; Sweden 189; Belgium 115; Lebanon 91.
Nonmetals:			
Asbestos	2,784	1,610	United States 688; Canada 621.
Barite	---	112	United Kingdom 101.
Cement	10,162	14,282	United Arab Republic (Egypt) 5,064; Denmark 4,600; Japan 2,003; West Germany 1,199; Belgium 909.
Fertilizers:			
Nitrogenous	9,263	8,428	West Germany 6,416; Italy 2,002.
Phosphatic	961	2,072	All from West Germany.
Stone, monumental and building	---	1,212	Jordan 889; Italy 199.
Mineral fuels:			
Coal and coke	---	1,176	West Germany 975; Netherlands 152.
Petroleum refinery products:			
Lubricants 42-gallon barrels	33,656	21,035	Netherlands 6,405; United Kingdom 6,195; West Germany 4,340.
Asphalt and other do	---	2,521	Iran 2,151; United Kingdom 224.

NA Not available.

Ireland

Table 1.—Ireland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [e]
Metals:					
Copper, metal content of ore	2,388	---	---	---	1,400
Lead, metal content of ore	---	---	1,200	2,588	38,171
Steel ingots and castings thousand tons	19	20	20	20	27
Zinc, metal content of ore	---	---	---	1,437	21,779
Nonmetals:					
Barite	20	[r] 13,533	[r] 41,034	83,988	125,000
Cement thousand tons	760	[r] 801	[r] 973	1,052	986
Clays, refractory	18,096	17,804	21,289	NA	NA
Construction materials: [1]					
Sand and gravel thousand tons	1,637	1,616	5,704	2,204	2,358
Limestone do	1,363	2,356	3,737	3,597	4,859
Gypsum do	176	[r] 204	232	218	218
Lime do	[r] 30	[r] 33	[r] 40	42	41
Pyrites, including cupriferous do	38	---	---	---	---
Superphosphate do	655	320	NA	NA	NA
Other do	1,656	1,497	3,017	2,316	2,383
Mineral fuels:					
Coal:					
Anthracite do	132	[r] 149	153	118	121
Semibituminous do	76	78	77	66	54
Coke, gas plant, excluding coke breeze do	[r] 88	[r] 100	102	105	100
Peat:					
Briquets do	241	[r] 286	296	224	215
Milled [2] do	1,163	[r] 795	1,336	1,490	2,031
Sod do	2,803	[r] 2,759	2,481	2,281	2,177
Moss do	22	[r] 25	24	[r] 28	29
Petroleum refinery products:					
Gasoline thousand 42-gallon barrels	2,784	2,895	3,278	3,644	2,989
Jet fuel do	---	---	---	---	---
Kerosine do	73	1	---	---	---
Distillate fuel oil do	3,412	3,590	3,911	[r] 4,493	3,372
Residual fuel oil do	4,364	4,462	5,076	5,930	4,175
Other do	137	345	277	471	253
Refinery fuel (including losses) do	659	704	692	744	759

[e] Estimate. [r] Revised. NA Not available.

[1] Figures do not include large quantities of granite, stone, sand and gravel, and other materials used by government agencies except for 1964.

[2] Year ended March 31 of year following that stated.

[3] Excludes milled peat used in briquets except for 1965.

Table 2.—Ireland: Exports [1] of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and alloys:			
Scrap	1,317	1,226	Netherlands 722; United Kingdom 304.
Unwrought and semimanufactures	4,402	4,096	United Kingdom 3,939.
Copper and alloys:			
Scrap	[r] 2,836	3,521	West Germany 1,192; United Kingdom 890.
Unwrought and semimanufactures	1,597	1,758	Netherlands 901; United Kingdom 336.
Iron and steel:			
Ore and concentrate	6,164	---	
Scrap	45,595	35,113	Spain 14,799; United Kingdom 8,023; Sweden 5,939.
Steel ingots and other primary forms.	[r] 7,584	52,724	Spain 37,126; United Kingdom 12,327.
Semimanufactures	[r] 19,450	8,732	United Kingdom 6,607.
Lead and alloys:			
Scrap	315	885	United Kingdom 449.
Unwrought and semimanufactures	825	525	United Kingdom 490.
Unspecified nonferrous ores and concentrates.	---	589	All to Canada.
Nonmetals:			
Barite	28,282	97,221	United States 92,700.
Cement thousand tons	251	337	All to United Kingdom.
Fertilizer materials:			
Crude	[r] 9,088	13,198	Do.
Manufactured	442	8,845	United Kingdom 5,576; Spain 3,269.
Gypsum and plasters thousand tons	104	104	Mainly to United Kingdom.
Stone, sand and gravel:			
Dimension stone, crude and worked.	269	144	United Kingdom 121.
Gravel and crushed stone thousand tons	177	194	West Germany 78; United Kingdom 63.
Clay products:			
Refractory	10,361	23,903	United Kingdom 14,356.
Other	5,183	14,104	United Kingdom 11,319.
Mineral fuels:			
Coal briquets and peat	57,430	52,090	United Kingdom 47,235.
Coke	35,728	48,044	Norway 44,933.
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	200	86	All to United Kingdom.
Kerosine do	721	763	NA.
Distillate fuel oil do	998	1,558	All to United Kingdom.
Residual fuel oil do	146	428	Do.
Liquefied petroleum gas (LPG)	7,064	1,688	Do.
Crude chemicals from coal and petroleum distillation.	5,476	11,199	United Kingdom 6,552; West Germany 711.

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[r] Revised. NA Not available.

[1] Including reexports.

Table 3.—Ireland: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Unwrought	8,955	7,831	Canada 7,403.
Semimanufactures	3,957	4,048	United Kingdom 2,881; West Germany 387.
Copper and alloys:			
Unwrought	[r] 71	29	All from United Kingdom.
Semimanufactures	7,058	7,231	United Kingdom 6,313.
Iron and steel:			
Iron ore and concentrate	272	1,262	All from West Europe.
Scrap	1,347	586	United Kingdom 532.
Pig iron, cast iron, powder, shot, and sponge iron.	28,903	22,810	East Germany 17,096.
Ingots, blooms, billets, slabs, coils for rerolling, and pipe blanks.	21,661	52,298	Belgium-Luxembourg 21,695; U.S.S.R. 13,793.
Semimanufactures:			
Wire rod	17,894	15,931	West Germany 7,201; United Kingdom 4,494.
Bars and other rod	17,660	12,516	United Kingdom 7,670.
Plate and sheet	67,693	68,226	United Kingdom 34,278; West Germany 12,892.
Hoop and strip	4,129	4,132	United Kingdom 3,241.
Rails and railway track materials.	4,971	8,166	West Germany 1,338; Netherlands 1,222; Belgium-Luxembourg 1,133.
Wire	5,467	5,589	United Kingdom 4,252.
Pipe, tube, and fittings	29,124	28,603	United Kingdom 19,487.
Castings	266	231	United Kingdom 138.
Lead:			
Oxides	1,193	1,391	United Kingdom 1,369.
Metals and alloys, unwrought and semimanufactures.	427	469	United Kingdom 464.
Nickel and alloys, unwrought and semimanufactures.	140	94	United Kingdom 87.
Silver, all forms....value, thousands..	$269	$216	NA.
Silver and/or platinum ore	---	70	All from United Kingdom.
Tin and alloys, unwrought and semimanufactures............long tons..	65	47	All from United Kingdom.
Titanium oxide	2,130	2,173	United Kingdom 1,574; West Germany 232.
Zinc:			
Oxides	586	596	United Kingdom 471; Belgium-Luxembourg 81.
Metals and alloys:			
Unwrought	[r] 3,492	3,328	Belgium-Luxembourg 2,231.
Semimanufactures	294	269	United Kingdom 127; Belgium-Luxembourg 75.
Other:			
Ores and concentrates	12,905	7,886	Mozambique 7,851.
Scrap, nonferrous	236	112	United Kingdom 105.
Unwrought and semimanufactures	---	---	
Nonmetals:			
Abrasives:			
Natural, n.e.s.	2,807	1,132	NA.
Grinding stones	222	237	United Kingdom 182; West Germany 42.
Asbestos	3,270	5,089	South Africa 1,524; Rhodesia 1,459; Cyprus 1,363.
Cement............thousand tons..	59	31	Poland 19; United Kingdom 11.
Clay:			
Crude refractory materials, not elsewhere specified.	16,423	22,804	United Kingdom 10,110; Yugoslavia 9,364.
Products including brick:			
Refractory	15,175	15,841	United Kingdom 13,114; West Germany 1,361.
Other	5,205	5,676	United Kingdom 4,473; Sweden 463; West Germany 462.
Diamond, industrial thousand carats..	65	---	
Fertilizer materials:			
Crude:			
Nitrogenous.thousand tons..	2	1	Mainly from Chile.
Phosphatic..........do....	239	244	Mainly from Morocco.
Manufactured:			
Nitrogenous.........do....	161	116	Netherlands 28; United Kingdom 42; West Germany 20.

See footnotes at end of table.

Table 3.—Ireland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Fertilizer materials—Continued			
Manufactured—Continued			
Phosphatic:			
Thomas slag do	158	153	Belgium-Luxembourg 148.
Other do	[r] 33	33	Belgium-Luxembourg 22; West Germany 6.
Potassic do	[r] 162	160	France 54; West Germany 42; East Germany 41.
Mixed do	1	3	Mainly from West Germany.
Ammonia, anhydrous	435	14,963	France 11,402; United Kingdom 2,218.
Lime	3,849	5,364	All from United Kingdom.
Limestone and dolomite	1,635	3,327	United Kingdom 2,720.
Mica, worked	4	---	
Pigments, mineral (iron oxides and hydroxides).	1,522	1,315	United Kingdom 887; West Germany 270.
Salt thousand tons	38	42	United Kingdom 33.
Sodium and potassium compounds, n.e.s.:			
Caustic soda	3,241	3,221	United Kingdom 2,338.
Caustic potash and peroxides of sodium and potassium.	195	248	United Kingdom 218.
Stone, sand and gravel, n.e.s.:			
Dimension stone:			
Crude or roughly cut	3,077	2,992	United Kingdom 1,491; Italy 1,178.
Worked	649	666	United Kingdom 628.
Sand, excluding metal bearing	38,568	39,411	Belgium-Luxembourg 25,555; United Kingdom 13,782.
Gravel and crushed stone	8,447	21,947	United Kingdom 21,836.
Sulfur and pyrite:			
Pyrite, unroasted	3,109	2,206	All from Spain.
Sulfur, elemental	54,662	53,375	United States 29,297; France 20,714.
Sulfuric acid	1,583	193	United Kingdom 192.
Other nonmetals: quartz, crude mica, feldspar, and fluorspar.	3,212	4,524	United Kingdom 4,356.
Mineral fuels:			
Asphalt and bitumen, natural	3,249	---	
Carbon black	---	---	
Coal, coke, and briquets:			
Coal thousand tons	1,307	1,289	United Kingdom 436; United States 361; Poland 348.
Coke do	13	12	United Kingdom 10.
Briquets do	3	6	Mainly from United Kingdom.
Gas, natural, including LPG	10,282	9,058	United Kingdom 9,021.
Petroleum:			
Crude and partly refined thousand 42-gallon barrels	[r] 13,042	15,186	Iran 8,586; Iraq 4,805; Saudi Arabia 1,794.
Refinery products:			
Gasoline do	421	269	United Kingdom 219; Israel 50.
Kerosine and jet fuel do	1,679	1,666	United Kingdom 1,579.
Distillate fuel oil do	95	208	United Kingdom 163.
Residual fuel oil do	1,888	2,687	United Kingdom 1,459.
Lubricating oils and greases do	260	239	Mainly from United Kingdom.
Mineral jelly and waxes do	15	15	Mainly from United Kingdom.
Miscellaneous chemicals from the distillation of coal, gas, and petroleum.	17,161	10,626	United Kingdom 10,555.

[r] Revised. NA Not available.

Source: Statistical Office of the United Nations.

Israel

Table 1.—Israel: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Copper [1]	5,909	7,720	[r] 8,000	[r] 8,100	8,500
Steel	80,000	82,798	83,000	84,000	84,000
Nonmetals:					
Bromine:					
Elemental	1,800	2,941	3,800	4,500	4,200
Compounds			NA	NA	2,100
Cement, thousand metric tons	954	1,022	[r] 1,098	[r] 1,260	1,168
Clay, all types	39,000	27,302	30,000	40,000	41,272
Crushed stone, cubic meters	3,700,000	NA	NA	NA	1,200,000
Gypsum	74,000	[r] 104,000	[r] 110,000	110,000	110,000
Lime	NA	NA	110,000	130,000	75,000
Marble, cubic meters	5,500	NA	7,500	7,500	6,500
Phosphate, beneficiated	210,000	300,000	[r] 240,000	388,000	400,000
Potash, K_2O equivalent	90,900	113,000	255,509	[e] 310,000	[e] 372,000
Salt	45,000	52,000	[r] 43,000	55,000	55,000
Silica sand	34,000	50,000	40,000	50,000	32,400
Mineral fuels:					
Natural gas, million cubic feet	284	366	1,069	2,705	3,562
Peat, thousand metric tons	10	12	14	15	20
Petroleum, crude, thousand 42-gallon barrels	1,126	1,091	[r] 1,440	1,469	1,365
Refinery products:					
Gasoline, do	2,350	2,674	2,948	3,647	NA
Kerosine, do	1,833	1,884	2,333	2,670	NA
Distillate fuel oil, do	4,157	5,433	5,500	8,211	NA
Residual fuel oil, do	6,028	7,379	8,700	13,952	NA
Other, do	1,149	NA	478	793	NA
Refinery fuel and loss, do	817	NA	1,072	NA	NA
Total refinery products, do	16,334	NA	21,031	29,273	NA

[e] Estimate. [r] Revised. NA Not available.

[1] Metal content of cement copper exports, calculated on basis of 75 percent Cu.

Table 2.—Israel: Exports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, all forms	1,039	1,682	Turkey 331; India 56; Cyprus 44.
Copper, all forms	16,611	13,436	Spain 6,023; Hungary 1,324.
Iron and steel:			
Slag	NA	1,309	All to Netherlands.
Scrap	1,441	1,273	West Germany 768; Japan 142.
Semimanufactures	6,950	10,373	Iran 2,589; Turkey 1,336; Hungary 1,210.
Lead, all forms	965	399	All to Common Market (undifferentiated).
Zinc, all forms	266	385	Common Market 308 (undifferentiated); Italy 150.
Nonmetals:			
Asbestos	233	[p] 600	NA.
Bromine and compounds	[p] 1,240	3,115	United Kingdom 1,936; Hungary 451.
Carbon black	NA	3,565	Hungary 2,600; Rumania 300.
Cement	108,000	26,283	Ethiopia 8,705; Cyprus 7,935; Spain 6,150.
Clays	12,895	3,142	All to West Germany.
Diamond, worked carats	1,244,300	1,332,728	United States 483,664; Switzerland 135,000; Netherlands 132,372.
Fertilizer materials:			
Nitrogenous	NA	61	Argentina 29.
Phosphatic	159,647	310,302	Turkey 123,776; Rumania 68,754; Italy 34,590; Japan 33,588; Bulgaria 22,010.
Potassic (value in dollars)	7,978	13,592	NA.
Lime	210	574	All to Africa (undifferentiated).
Mineral fuels:			
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	659	NA	
Diesel oil do	3,072	NA	
Natural asphalt, bitumen and grease do	NA	6,121	Greece 2,628; Middle East (undifferentiated) 2,940.

[p] Preliminary.
[1] Source: Statistical Office of the United Nations.

Table 3.—Israel: Imports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Unwrought	6,774	6,008	France 2,060; United States 1,536.
Semimanufactures	1,407	1,685	United States 461; United Kingdom 377.
Copper:			
Unwrought and alloys	2,191	71	Belgium 52.
Semimanufactures	7,408	8,771	United Kingdom 3,142; Italy 2,510.
Gold, all forms troy ounces	20,382	20,382	NA.
Iron and steel:			
Pig iron	43,434	201	All from Switzerland.
Scrap and others	1,627	1,889	All from Belgium.
Ferromanganese and spiegeleisen	2,748	11,985	West Germany 7,195; United Kingdom 3,657.
Other ferroalloys	388	339	United Kingdom 205; West Germany 87.
Semimanufactures	497,099	405,095	West Germany 132,346; Italy 54,294; United Kingdom 49,663; France 38,735; Belgium 29,560.
Lead:			
Unwrought	1,149	[2] 1,823	United Kingdom 922; France 538.
Semimanufactures	895	705	United Kingdom 441; Belgium 174.
Magnesium, all forms	56	41	Common Market (undifferentiated).
Nickel, all forms	88	91	United Kingdom 41; Italy 33.
Silver and platinum, all forms troy ounces	665,761	353,663	All from United Kingdom.
Tin, all forms long tons	151	136	United Kingdom 105; West Germany 13.
Zinc, all forms	3,082	4,351	Belgium 2,189; Netherlands 503.
Nonmetals:			
Asbestos	7,557	8,459	Canada 4,745; South Africa 1,980.
Barite	462	432	All from Common Market (undifferentiated).
Cement	11,849	NA	
Clays:			
Refractory	867	2,379	Austria 873; West Germany 629.
Others	11,321	72	NA.
Diamond:			
Unworked thousand carats	2,972	2,708	NA.
Bort do	542	504	NA.
Industrial do	442	590	NA.
Feldspar and fluorspar	2,602	3,632	France 1,444; Norway 1,210.
Graphite	52	---	
Magnesite	1,466	2,313	Austria 1,280; Yugoslavia 864.
Mica	107	187	Norway 82; United Kingdom 67.
Quartz and quartzite	787	374	All from West Europe (undifferentiated).
Steatite and talc	1,441	1,577	France 550; Austria 325.
Sulfur	70,165	48,710	United States 48,431; West Germany 137.
Other	423	562	United Kingdom 319; South Africa 154.
Mineral fuels:			
Coal	18,562	2,642	U.S.S.R. 1,600; Italy 500.
Peat and briquets	246	249	All from West Europe (undifferentiated).
Coke	8,685	6,439	Italy 4,968; West Germany 966.
Petroleum, crude thousand 42-gallon barrels	20,755	---	
Refinery products:			
Lubricants	133	130	United States 30; United Kingdom 21.
Mineral jelly and wax	40	18	United States 10; Rumania 6.
Other	---	21	United Kingdom 9; United States 2.

NA Not available.

[1] Source: Statistical Office of the United Nations.

[2] Includes 694 metric tons of lead oxide.

Italy

Table 1.—Italy: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite	[r] 309,434	268,609	251,791	244,431	253,669
Alumina, Al_2O_3 content	[r] 222,611	[r] 238,699	[r] 262,637	[r] 278,139	NA
Metal:					
Primary	[r] 82,908	[r] 91,428	115,595	123,976	127,645
Secondary	56,000	65,000	58,000	61,000	85,000
Semimanufactures	97,000	107,000	105,000	112,000	144,000
Superpure	NA	NA	338	352	NA
Antimony:					
Ore, 13 to 57 percent antimony	2,056	[r] 570	775	854	765
Regulus	406	[r] 405	[r] 383	[r] 280	348
Oxide, metal content	43	113	[r] 74	57	77
Sulfide, metal content	60	20	44	45	61
Arsenic ore (including gold-bearing)	1,622	-----	-----	-----	-----
Cadmium	[r] 243	[r] 282	271	[r] 273	245
Copper:					
Concentrate, 21 to 23 percent copper	3,902	4,531	3,531	3,302	4,867
Cement, copper content	[r] 4,200	3,300	3,200	2,800	2,600
Refined, secondary	12,000	13,000	11,700	12,700	16,900
Alloy ingots (from custom smelters):					
Brass	17,000	17,000	19,000	16,500	24,000
Bronze	12,500	10,500	12,000	10,500	11,000
Other	2,000	2,000	1,700	2,300	3,000
Semimanufactures:					
Copper	164,800	178,000	173,000	173,300	185,900
Brass	124,200	139,700	115,000	123,400	133,500
Other (including cupro-nickel)	5,000	5,300	5,000	5,800	6,600
Iron and steel:					
Iron ore thousand tons	1,151	1,024	[r] 876	785	784
Roasted pyrite [1] do	[e] 902	[e] 864	[e] 823	[e] 839	[e] 880
Sinter and other agglomerates do	2,446	2,538	2,608	5,407	[e] 7,000
Pig iron do	3,556	3,741	3,498	5,490	6,259
Ferroalloys do	122	127	127	139	158
Steel ingots and castings do	9,757	10,157	9,793	12,681	13,639
Semimanufactures:					
Hot rolled:					
Wire rod do	603	563	553	674	646
Other bars and rods [2] do	2,466	2,848	2,660	2,919	3,343
Sections do	595	634	644	725	316
Plates and sheets do	927	859	829	952	1,032
Coils thousand tons	1,538	1,637	1,650	3,041	3,517
Strip do	417	429	468	550	551
Seamless tube do	793	817	724	784	798
Other do	208	194	214	224	200
Total hot rolled do	7,547	7,981	7,742	9,869	10,403
Castings and forgings do	242	228	200	208	229
Cold rolled sheet do	1,306	1,664	1,858	2,216	2,467
Lead:					
Concentrates (including silver-bearing)	67,695	50,671	52,319	54,821	57,979
Oxides	18,983	17,332	[r] 14,680	11,621	NA
Metal:					
Primary, unalloyed	[r] 38,739	41,937	37,913	39,429	53,555
Secondary, unalloyed	4,800	5,700	6,500	7,900	10,800
Alloys	[r] 14,000	[r] 16,000	[r] 19,000	18,000	NA
Semimanufactures	38,000	38,500	39,500	39,000	46,000
Magnesium	5,704	5,527	6,028	6,313	[e] 6,200
Manganese ore	44,421	45,257	47,803	47,810	43,944
Mercury:					
Ore	267,943	257,770	276,230	322,248	306,005
Metal 76-pound flasks	54,506	54,448	57,001	57,320	53,549
Nickel:					
Secondary	250	-----	-----	-----	-----
Semimanufactures, including anodes	300	300	350	220	270

See footnotes at end of table.

Table 1.—Italy: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals—Continued					
Silicon	15,550	17,000	17,750	19,750	19,752
Silver thousand troy ounces	930	1,006	[r] 1,074	1,103	1,132
Tin:					
Alloys:					
Solder long tons	4,035	4,035	3,543	3,448	3,838
Babbitt do	492	1,083	738	492	708
Semimanufactures do	NA	NA	[3] 118	[3] 103	[3] 98
Titanium dioxide	35,478	31,681	38,894	40,090	NA
Tungsten concentrates (65 percent WO_3)	1	2	1	1	1
Zinc:					
Concentrate (about 52 percent zinc)	234,515	[r] 199,670	218,040	224,485	214,563
Calamine ore (14 to 24 percent zinc)	32,652	[r] 8,615	3,983	-----	13,287
Oxide	12,106	13,373	12,273	12,322	NA
Metal:					
Primary	78,068	73,565	73,013	80,898	77,229
Secondary, from scrap and residues	4,400	4,900	600	-----	-----
Alloys	15,900	16,600	16,200	18,400	21,300
Semimanufactures	9,800	10,400	8,700	9,500	10,500
Nonmetals:					
Asbestos	55,211	57,167	68,559	71,862	82,068
Barite:					
Crude	121,541	103,627	104,745	141,895	172,738
Ground	81,185	47,249	56,173	NA	NA
Boric acid, from steam	1,378	514	319	86	-----
Bromine, elemental	1,001	1,162	1,605	2,059	NA
Celestite	600	654	457	640	NA
Cement thousand tons	20,172	22,088	22,840	[r] 20,695	22,374
Cement rock do	4,635	4,459	4,769	3,734	NA
Clays:					
Bentonite do	127	160	141	159	215
Bleaching do	193	132	[r] 205	102	NA
Kaolin, crude do	[r] 88	[r] 99	97	72	NA
Kaolinitic earth do	121	102	94	46	69
Refractory do	178	194	238	216	NA
Other:					
For bricks and terracotta do	24,642	26,660	24,060	NA	NA
For cement do	2,838	3,219	3,195	NA	NA
Diatomite	56,589	59,429	69,350	[e] 60,000	[e] 60,000
Dolomite:					
For magnesium manufacture	71,078	77,070	NA	NA	NA
For refractory and other uses	704,734	785,219	834,483	NA	NA
Earths:					
For pigment	6,662	5,520	4,990	NA	NA
For foundry use	410,417	230,051	216,338	NA	NA
Feldspar:					
Crude	99,945	102,099	[r] 111,614	92,260	138,102
Ground	91,702	96,095	94,751	NA	NA
Fertilizer materials:					
Crude:					
Leucite	80	-----	-----	-----	-----
Potassium salts thousand tons	1,039	1,264	1,470	1,725	1,862
Manufactured:					
Nitrogenous do	2,777	2,788	2,687	3,087	3,183
Phosphatic:					
Basic slag do	125	112	[r] 88	1,422	1,689
Superphosphate (mineral)	1,416	1,476	1,279		
Potassic do	224	256	318	352	376
Other (compound) do	1,386	1,554	1,778	1,638	1,800
Fluorspar	160,308	134,633	124,694	147,862	205,154
Graphite	3,018	1,862	1,691	1,227	1,070
Gypsum thousand tons	2,156	2,389	[r] 2,527	3,279	3,300
Iodine, crude kilograms	10,865	3,270	-----	-----	NA
Lime [e] thousand tons	5,355	[e] 5,700	5,100	4,300	NA
Limestone (excluding dimension stone) do	46,310	64,415	57,548	NA	NA
Magnesite	8,414	6,815	6,309	3,536	2,601
Pozzolan thousand tons	3,014	4,323	4,067	3,869	[e] 3,900
Pumice do	317	656	616	462	[e] 960
Pumiceous lapilli do	146	280	347	498	
Pyrite, including cupriferous pyrite thousand tons	1,584	1,402	1,395	1,402	1,304
Quartz (ground)	37,991	57,454	33,971	NA	NA
Salt:					
Marine (crude) thousand tons	1,134	903	NA	NA	NA
Other (including Solvay brine) do	1,731	1,892	2,031	2,129	2,117

See footnotes at end of table.

Table 1.—Italy: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Stone, sand and gravel, n.e.s.:					
Dimension stone:					
Calcareous, including travertine:					
Alabaster, including onyx	6,636	9,617	22,843	NA	NA
Gypsum, other than alabaster	77,108	84,140	85,615	NA	NA
Limestone	523,319	700,841	483,903	NA	NA
Marble, in blocks:					
White	[r] 774,427	[r] 653,864	[r] 646,441	NA	NA
Colored	[r] 634,067	[r] 840,217	[r] 764,753	NA	NA
Schist	46,998	30,852	30,672	NA	NA
Travertine	324,073	403,651	393,166	NA	NA
Tufa thousand tons	1,403	1,388	1,240	NA	NA
Other:					
Gneiss	105,173	110,273	91,297	NA	NA
Granite	83,232	90,272	68,262	NA	NA
Lava (basalt and trachyte)	420,857	922,060	610,271	NA	NA
Porphyry	180,572	156,390	169,116	NA	NA
Sandstone and quartzite	249,677	251,024	119,608	NA	NA
Serpentine	72,130	83,870	102,346	NA	NA
Slate	59,915	60,870	56,755	NA	NA
Volcanic tuff	[r] 510,376	[r] 548,056	702,165	NA	NA
Other	41,401	40,153	49,422	NA	NA
Total thousand tons	5,439	5,954	5,637	NA	NA
Crushed and broken stone do	18,611	27,472	NA	NA	NA
Sand:					
Volcanic do	40,000	115,000	237,000	NA	NA
Silica sand thousand tons	2,474	2,776	3,105	NA	NA
Sand and gravel do	34,680	37,060	37,640	NA	NA
Sulfur:					
Ore do	1,066	984	678	645	589
Concentrate (90 percent sulfur)	90,000	95,000	67,041	59,252	79,538
Crude (in briquets—excluding byproduct)	54,312	41,788	28,929	36,226	14,056
Talc and steatite	129,601	139,335	133,830	119,074	112,679
Mineral fuels:					
Asphaltic and bituminous rocks:					
For distillation	201,856	271,743	[r] 238,239	210,965	292,308
For paving	116,860	114,823	[r] 108,046	58,627	
Carbon black	29,677	43,700	64,300	73,900	NA
Coal:					
Anthracite	16,562	14,021	9,360	5,592	85
Subbituminous (Sulcis coal)	676,005	572,040	462,162	383,870	417,802
Coke:					
Metallurgical thousand tons	4,326	4,595	4,683	5,737	6,605
Gasworks do	776	725	542	386	338
Lignite do	1,776	1,366	1,203	1,018	1,066
Natural gas million normal cubic meters	7,150	7,268	7,684	7,802	8,796
Natural gasoline (condensate)	55,079	55,065	63,123	68,024	92,201
Petroleum:					
Crude thousand tons	1,806	1,784	2,669	2,210	1,757
Refinery products:					
Gasoline thousand tons	5,886	6,519	7,407	8,543	10,180
Jet fuel do	650	706	793	1,006	1,433
Kerosine do	729	812	829	1,334	1,491
Distillate fuel oil [4] do	10,454	12,616	[r] 15,536	18,910	56,598
Residual fuel oil [5] do	18,777	21,561	25,384	30,078	
Bitumen do	900	1,055	1,226	1,228	1,298
Petrochemical feedstocks do	710	797	1,106	1,702	NA
LPG do	794	963	1,087	1,272	1,474
Lubricants do	167	169	259	347	470
Other do	204	312	505	800	3,378
Total refinery products do	39,271	45,510	54,132	65,220	76,322
Refinery fuel and loss do	2,557	3,008	3,714	4,152	4,874
Crude oil processed do	41,828	48,518	57,846	69,372	81,196

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[e] Estimate. [r] Revised. NA Not available.

[1] Net exports plus consumption in agglomerating plants and blast furnaces in iron and steel industry.

[2] Includes rerolled scrap.

[3] Includes alloys except solder.

[4] Includes gas oil, and fuel oils less than 5° E ("fluidissimo" and "fluido").

[5] Includes fuel oils greater than 5° E ("semi-fluido" and "denso").

Table 2.—Italy: Exports of mineral commodities

Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	2,186	3,247	France 2,027.
Oxide and hydroxide	8,412	11,606	Austria 6,272; Romania 2,417.
Metal and alloys:			
Scrap	---	37	NA.
Unwrought	19,171	32,042	West Germany 15,410; United Kingdom 7,581.
Semimanufactures	17,484	23,010	United States 7,866; West Germany 3,266.
Antimony	1	1	NA.
Beryllium oxide kilograms	900	500	NA.
Bismuth, including manufactures	1	(1)	NA.
Cadmium	29	12	NA.
Chromium:			
Ore and concentrate	2,071	---	
Oxide and hydroxide	218	336	Sweden 110; United States 100.
Cobalt:			
Oxide and hydroxide	12	---	
Metal	(1)	1	NA.
Copper:			
Ore and concentrate	2,502	1,015	Belgium-Luxembourg 606; Austria 409.
Matte	r 190	80	West Germany 80.
Metal and alloys:			
Scrap	2,892	472	West Germany 400.
Blister copper	180	527	Netherlands 309; West Germany 113.
Refined	10,473	16,523	West Germany 8,176; Netherlands 4,243; France 921; Austria 913.
Master alloy	22	79	West Germany 55.
Semimanufactures	27,437	39,180	West Germany 9,318; Netherlands 4,885; Switzerland 4,302; France 2,042.
Germanium value, thousands	NA	$198	NA.
Gold, semimanufactures troy ounces	NA	e 1,350	NA.
Iron and steel:			
Iron ore thousand tons	7	37	France 37.
Roasted pyrite do	667	642	Austria 342; United Kingdom 128.
Scrap do	5	2	West Germany 1; France 1.
Pig iron [2] do	3	3	Belgium-Luxembourg 1; France 1.
Ferroalloys do	13	16	West Germany 6; Austria 2; United Kingdom 2.
Steel: ingots and other primary forms do	r 114	113	Switzerland 42, 784; Israel 31,544.
Semimanufactures:			
Bars, rods, and sections do	481	1,013	West Germany 205; United States 197; South Africa 101; France 91.
Universals, plates and sheets do	440	652	France 92; South Africa 80; Yugoslavia 65.
Hoop and strip do	42	57	Turkey 9; Greece 8; West Germany 8.
Rails and accessories do	10	24	South Africa 12; Switzerland 8.
Wire, excluding wire rod do	12	21	Yugoslavia 5; Romania 3; Libya 2.
Tubular products do	373	553	Libya 134; U.S.S.R. 43; West Germany 41; Netherlands 33; Iran 33.
Castings, rough do	2	5	Switzerland 2; West Germany 1.
Total semimanufactures do	1,360	2,325	
Lead:			
Ore and concentrate	5,467	4,662	Austria 4,630.
Oxides	1,393	1,570	Hungary 1,270.
Metal and alloys:			
Unwrought	193	159	Switzerland 97; West Germany 55.
Semimanufactures	54	79	Egypt 28.
Magnesium and alloys:			
Scrap	20	---	
Unwrought	5,697	5,919	West Germany 4,373.
Semimanufactures	7	10	NA.
Manganese:			
Ore	679	1,052	West Germany 980.
Metal	NA	6	NA.
Mercury 76-pound flasks	83,514	51,112	United Kingdom 15,606; Japan 12,009; West Germany 8,267.
Molybdenum	2	3	Austria 2.
Nickel and alloys:			
Unwrought, including scrap	207	178	NA.
Semimanufactures	r 793	1,090	Bulgaria 171; Morocco 169; Iran 157; Spain 110.

See footnotes at end of table.

Table 2.—Italy: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Selenium kilograms	6,400	NA	NA.
Silicon	[r] 9,383	12,187	NA.
Silver and platinum-group metals:			
Ores and residues kilograms	---	19	France 11.
Platinum [3] thousand troy ounces	[r] 96	50	NA.
Silver do	74	288	Belgium-Luxembourg 84; France 74.
Tantalum value, thousands	---	$41	Egypt $37.
Tin and alloys, all forms long tons	[r] 247	191	NA.
Titanium:			
Dioxide	13,264	17,597	United Kingdom 2,011; Romania 1,975; Poland 1,853; Hungary 1,601.
Metal, including scrap	3	1	NA.
Tungsten	2	27	West Germany 17.
Zinc:			
Ore and concentrate	[4] 49,279	30,424	Austria 12,920; Spain 3,844; France 3,647.
Oxides	565	389	France 147; West Germany 100.
Metal and alloys:			
Unwrought	1,580	1,423	United States 1,150.
Semimanufactures	443	150	Switzerland 93.
Miscellaneous, n.e.s.:			
Nonferrous ores, including ashes and residues	20,936	12,866	NA.
Base metals	3	10	NA.
Pyrophoric alloys	3	---	
Metallic oxides and hydroxides, n.e.s.	24	75	NA.
Metalloids, n.e.s.	241	176	NA.
Oxides, hydroxides of barium, strontium, magnesium	381	9,341	Netherlands 7,816.
Nonmetals:			
Abrasives, n.e.s.:			
Dust, powder of precious and semiprecious stones kilograms	473	---	
Grinding stones	1,615	2,239	France 694; West Germany 185; Lebanon 119; United Kingdom 108; Spain 104.
Pumice	321,734	148,695	NA.
Corundum, garnet, tripoli and other.	402	1,556	NA.
Asbestos	9,017	25,699	West Germany 7,168; France 4,946.
Asbestos- and fiber-cement products	50,608	43,591	France 14,669; West Germany 3, 697.
Barite, including witherite	11,186	32,993	Netherlands 23,826.
Cement	174,639	567,224	Spain 254,980; United Kingdom 78,145; Libya 74,299.
Chalk	509	455	NA.
Clays and clay construction materials:			
Bentonite	22,460	21,316	NA.
Kaolin	350	549	NA.
Other, including andalusite, etc.	1,519	3,023	NA.
Construction materials:			
Refractory	12,311	17,724	Austria 2,283; Libya 1,902; West Germany 1,363; Switzerland 1,314.
Nonrefractory	255,412	337,762	France 71,849; Switzerland 82,613; West Germany 56,638.
Cryolite	---	36	NA.
Diamond:			
Gem value, thousands	$192	$50	NA.
Industrial thousand carats	320	---	
Diatomite	801	634	France 196; West Germany 145.
Dolomite, including calcined	10,541	13,992	Switzerland 8,383; Austria 2,021.
Feldspar	21,763	23,194	NA.
Fertilizer materials:			
Crude:			
Potassium salts	4,454	13,444	Yugoslavia 13,443.
Sodium nitrate	25	---	
Manufactured:			
Nitrogenous thousand tons	1,012	1,161	UAR (Egypt) 293; Mainland China 253; Greece 117; Spain 112; Turkey 104.
Phosphatic do	32	2	Libya 2.
Potassic do	114	135	Poland 24; France 17; Greece 15.
Mixed do	512	313	Greece 54; Czechoslovakia 47.
Ammonia, anhydrous	13,240	13,664	Greece 10,598.
Fluorspar	46,658	52,464	NA.
Graphite	1,292	1,680	France 941; West Germany 270.
Gypsum and plasters	13,368	18,368	Switzerland 10,041; West Germany 3,430.
Lime	27,863	37,038	Libya 25,410.

See footnotes at end of table.

Table 2.—Italy: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Limestone (industrial)	646	869	NA.
Magnesite	78	92	NA.
Mica:			
Crude	135	166	NA.
Worked	40	32	Yugoslavia 19.
Pigments, mineral, including iron oxide and hydroxide.	1,811	1,142	NA.
Precious and semiprecious stones (including synthetic), except diamond value, thousands	$241	$326	NA.
Pyrite, unroasted	47,555	52,569	Switzerland 43,469; Austria 8,521.
Quartz and quartzite	16,678	20,743	Switzerland 14,472.
Salt	54,833	56,787	Norway 26,338; Netherlands 7,132.
Other sodium and potassium compounds:			
Caustic soda	119,616	218,127	U.S.S.R. 94,952; Greece 28,761; France 22,047.
Caustic potash	2,677	2,016	Mainland China 745; India 267; Hungary 225.
Stone, sand and gravel:			
Dimension stone:			
Unworked:			
Granite, porphyry, etc.	32,951	33,836	Switzerland 18,721; Austria 5,409.
Marble and other calcareous.	261,015	269,789	West Germany 68,341; France 39,972; United States 24,646.
Slate	4,102	5,117	West Germany 2,138; France 1,397.
Worked:			
Slate	17,580	21,869	West Germany 9,772; France 5,293.
Other	130,879	195,421	NA.
Gravel and crushed stone	443,417	390,177	West Germany 88,163; Switzerland 71,511; Belgium-Luxembourg 44,524.
Sand	229,029	157,768	Switzerland 151,408.
Strontium minerals	134	100	NA.
Sulfur, including purified sulfur	4,753	2,473	NA.
Talc and steatite	43,673	43,013	United States 11,482; West Germany 6,846; United Kingdom 6,666.
Miscellaneous:			
Mineral substances, n.e.s.	67,996	80,372	United Kingdom 77,987.
Inorganic chemicals:			
Hydrogen and rare gases	73	93	For ships 54; Greece 9.
Halogens, excluding chlorine	23	123	West Germany 47; Mainland China 39.
Inorganic acids, oxygen compounds of nonmetals or metalloids.	118,841	111,690	Spain 33,210; Greece 30,150; Turkey 27,596.
Slag, scale and other nonmetal-bearing waste of iron and steel industry.	19,590	26,084	France 13,431; Austria 9,279.
Other nonmetal-bearing ash and slag.	359	1,436	West Germany 895; United Kingdom 95.
Other, including artificial corundum.	663	2,274	NA.
Mineral fuels:			
Asphalt and bitumen, natural	6,969	6,968	United Kingdom 5,068.
Coal, including briquets	4,218	1,412	For ships 412; West Germany 223.
Coke	99,844	120,158	Austria 38,458; Spain 17,506; Greece 16,687.
Gas, natural and manufactured, including LPG thousand tons	56	145	Spain 43; Argentina 24; Lebanon 14.
Petroleum:			
Crude	337	---	NA.
Refinery products:			
Gasoline[5] thousand tons	1,865	2,503	United Kingdom 477; Sweden 397; Switzerland 390; Belgium-Luxembourg 258; Austria 239.
Kerosine, white spirit, etc.[5] do	407	764	India 161; Pakistan 116; Greece 69; Switzerland 61.
Distillate fuel oil[5] do	5,022	6,383	Netherlands 1,296; Switzerland 1,284; Belgium-Luxembourg 927; France 707; West Germany 430.
Residual fuel oil[5] do	2,725	6,376	Belgium-Luxembourg 1,652; United Kingdom 1,486; Netherlands 807.
Lubricants[5] do	88	272	United States 92; France 26; Switzerland 18; West Germany 17.

See footnotes at end of table.

Table 2.—Italy: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels—Continued			
Petroleum—Continued			
Refinery products—continued			
Petroleum coke------do----	9	14	Switzerland 12.
Bitumen and other [e]--do----	181	153	NA.
Total [5] [6]-----------do----	10,297	16,465	
Bunker deliveries:			
Gasoline--------do----	310	130	
Kerosine--------do----	383	382	
Distillate fuel oil-do----	405	440	
Residual fuel oil--do----	3,516	3,696	
Lubricants------do----	15	41	
Total---------do----	4,629	4,689	
Grand total refinery products [6]---do----	14,926	21,154	
Miscellaneous chemicals from the distillation of coal, petroleum and natural gas.	867	3,645	France 1,435; Yugoslavia 1,402.

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[e] Estimate. [r] Revised. NA Not available.
[1] Less than ½ unit.
[2] Includes spiegeleisen, cast iron, sponge, powder, etc.
[3] Including other metals of platinum group.
[4] Includes 16 tons of zinc dust (blue powder).
[5] Excludes bunkers.
[6] Excludes liquefied petroleum gases.

Table 3.—Italy: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964[1]	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	378,788	476,606	Yugoslavia 251,733; Sierra Leone 62,842.
Oxide and hydroxide[2]	4,940	2,729	West Germany 1,213; United States 961.
Metal and alloys:			
Scrap	32,321	27,804	Canada 10,726; United States 4,544; France 3,265.
Unwrought	32,690	33,691	Norway 9,833; Canada 9,010; United States 5,550.
Semimanufactures	17,438	15,893	France 4,536; United States 3,167; West Germany 2,867.
Antimony	331	437	NA.
Arsenic oxides and acids	1,606	1,866	France 1,086.
Beryllium:			
Oxide kilograms	300	4,720	NA.
Metal and alloys do	400	950	NA.
Bismuth, unwrought	36	45	NA.
Cadmium	48	47	NA.
Chromium:			
Chromite	79,525	100,268	Turkey 45,155; U.S.S.R. 36,960.
Oxide and hydroxide	537	582	West Germany 547.
Metal, all forms	21	40	NA.
Cobalt:			
Oxide and hydroxide	247	219	Belgium-Luxembourg 187.
Metal and alloys, all forms	299	276	NA.
Copper:			
Ashes and residues	151	516	NA.
Matte	---	165	United States 100.
Metal and alloys:			
Scrap	13,902	35,596	France 8,445; West Germany 7,943; United States 7,315.
Blister copper	5,506	1,895	Zambia 451; Chile 221; Congo (Leopoldville) 200; Albania 172.
Refined	189,911	202,228	United States 50,678; Zambia 37,511; Congo (Leopoldville) 33,099; Chile 23,931.
Master alloy	95	350	Belgium-Luxembourg 97; United Kingdom 83.
Semimanufactures	9,093	8,617	Yugoslavia 2,087; West Germany 1,817; Switzerland 1,013.
Gallium, indium, thallium kilograms	NA	208	NA.
Germanium do	NA	479	NA.
Gold, including alloys thousand troy ounces	1,010	[e] 1,610	NA.
Iron and steel:			
Iron ore thousand tons	5,039	7,945	Liberia 1,813; Brazil 1,277; Algeria 1,206; Mauritania 1,075.
Roasted pyrite do	6	68	Algeria 28; Liberia 23; U.S.S.R. 18.
Scrap do	3,149	4,593	West Germany 1,862; France 1,706.
Pig iron, cast iron, and spiegeleisen do	542	657	U.S.S.R. 194; West Germany 165; Finland 98.
Powder, shot, sponge, and grit do	7	9	France 4; Sweden 2.
Ferroalloys:			
Ferromanganese do	54	79	France 19; South Africa 18.
Other do	30	35	France 8; Norway 6; Yugoslavia 6.
Ingots and other crude forms do	1,410	956	West Germany 235; France 220; U.S.S.R. 116.
Semimanufactures:			
Bars, rods (including wire rod) and sections thousand tons	297	270	West Germany 91; France 57; Belgium-Luxembourg 45.
Universals, plates and sheets do	871	608	France 200; West Germany 151.
Hoop and strip do	110	93	France 43; Belgium-Luxembourg 23.
Rails and accessories do	21	11	France 7; West Germany 3.
Wire do	19	15	Austria 5; Belgium-Luxembourg 4.
Tubular products do	65	48	West Germany 20; France 10.
Castings, unworked do	2	1	West Germany 1.
Total semimanufactures do	1,385	1,046	

See footnotes at end of table.

Table 3.—Italy: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964[1]	1965	Principal sources, 1965
Metals—Continued			
Lead:			
Ore and concentrate	9,366	32,762	Canada 18,529; Morocco 5,621.
Ashes and residues	782	2,467	NA.
Oxides	4,055	3,495	Mexico 3,073.
Metal including alloys:			
Scrap	16,197	30,872	West Germany 9,947; France 9,096; Switzerland 5,471.
Unwrought	36,338	45,551	Mexico 9,117; Peru 8,758; South Africa 7,424.
Semimanufactures	3,617	3,374	Yugoslavia 2,755.
Magnesium and alloys:			
Scrap	586	777	West Germany 578.
Unwrought	77	171	United States 71.
Semimanufactures	23	4	NA.
Manganese:			
Ore and concentrate	105,850	106,231	UAR (Egypt) 25,090, Congo (Leopoldville) 20,532; U.S.S.R. 10,200.
Oxide	317	526	Japan 361.
Metal	536	511	NA.
Mercury 76-pound flasks	290	1,102	Mexico 609; United States 290.
Molybdenum:			
Ore and concentrate	1,241	1,525	NA.
Trioxide	NA	35	NA.
Metal	40	123	United States 73; U.S.S.R. 36.
Nickel:			
Matte	1,015	630	Canada 532.
Metal including alloys:			
Scrap	182	612	Switzerland 258; Chile 150.
Unwrought	7,212	8,456	United Kingdom 4,066; Canada 2,533.
Semimanufactures	1,076	999	West Germany 290; United Kingdom 253.
Selenium	28	17	NA.
Silicon	26	15	NA.
Silver and platinum:			
Waste and sweepings troy ounces	900	1,543	Netherlands 1,190.
Silver thousand troy ounces	21,938	17,543	West Germany 8,426; United States 4,590.
Platinum and platinum-group metals do	89	115	West Germany 41; United States 7.
Tantalum:			
Ore and concentrate	NA	51	NA.
Metal	2	3	United States 3.
Tin:			
Oxide long tons	65	82	West Germany 74.
Metal including alloys:			
Unwrought and scrap do	5,202	5,428	Malaysia 3,631; Netherlands 1,400.
Semimanufactures do	72	39	West Germany 25.
Titanium:			
Ore and concentrate	112,228	85,909	NA.
Dioxide	14,532	15,979	West Germany 6,267; United Kingdom 4,026.
Metal	43	38	NA.
Tungsten:			
Ore and concentrate	60	13	Belgium-Luxembourg 8.
Trioxide	NA	5	NA.
Metal	29	35	France 11; West Germany 9.
Uranium and thorium:			
Ore	---	1	NA.
Metal and alloys kilograms	---	988	NA.
Vanadium pentoxide	232	206	NA.
Zinc:			
Ore and concentrate	1,040	23	NA.
Ashes and residues	5,512	7,764	NA.
Oxide	3,583	2,591	Netherlands 1,043; East Germany 420.
Dust (blue powder)	2,655	2,720	Belgium-Luxembourg 2,545.
Metal including alloys:			
Scrap	4,571	4,933	West Germany 1,902; Switzerland 794; Belgium-Luxembourg 739.
Unwrought	43,486	40,519	Belgium-Luxembourg 6,428; Yugoslavia 6,089; Canada 5,637; Bulgaria 5,120.
Semimanufactures	354	329	Yugoslavia 101; United Kingdom 58; Peru 51.
Zirconium:			
Ore and concentrate	13,238	11,790	NA.
Oxide	NA	304	NA.
Metal kilograms	700	1,463	NA.

See footnotes at end of table.

Table 3.—Italy: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964[1]	1965	Principal sources, 1965
Metals—Continued			
Metals, n.e.s.:			
Ores and concentrates	2,127	12,578	NA.
Ashes and residues	15,480	34,477	NA.
Nonferrous metals	77	---	
Alkali, alkaline-earth and rare-earth metals.	4,962	5,614	West Germany 2,580; France 1,648.
Metalloids	22	18	NA.
Pyrophoric alloys	---	17	West Germany 17.
Oxides, hydroxides of strontium, barium, magnesium.	475	526	West Germany 235; United States 165.
Nonmetals:			
Abrasives:			
Corundum, natural; including garnet.	212	194	NA.
Corundum, artificial[3]	NA	877	NA.
Diamond, industrial carats	20,000	10,000	Ghana 5,000.
Dust and powder of natural and synthetic gems carats	655,000	645,000	Switzerland 290,000.
Emery	1,369	1,230	NA.
Grinding stones	2,559	2,530	West Germany 718; United Kingdom 430.
Tripoli	1,420	1,296	NA.
Asbestos	43,890	38,639	South Africa 15,111; Canada 13,583.
Asbestos-cement products	14,787	12,695	Yugoslavia 9,025; Belgium-Luxembourg 2,131.
Barite, including witherite	27,861	18,724	Spain 13,810.
Borates, natural	54,498	83,503	Turkey 76,601.
Cement	163,918	41,571	France 36,527.
Chalk	6,461	8,593	France 6,494.
Clays and clay construction materials:			
Clay:			
Bentonite	4,716	4,891	United Kingdom 251,788; France 165,907; West Germany 147,040.
Kaolin	280,000	268,513	
Refractory and other	506,919	440,985	
Construction materials:			
Refractory	102,593	63,687	West Germany 26,502; Austria 8,576.
Nonrefractory	30,610	8,949	West Germany 4,602; Switzerland 1,725.
Cryolite and chiolite, natural	910	611	Denmark 611.
Diamond, non-industrial, unset thousand carats	455	NA	NA.
Diatomite	7,087	8,087	Hungary 5,146.
Dolomite	1,087	747	Norway 566.
Earth pigments	587	435	West Germany 142.
Feldspar (excluding nepheline)	10,981	14,773	NA.
Fertilizer materials:			
Crude:			
Phosphate rock thousand tons	1,716	1,651	United States 816; Tunisia 327; Morocco 320.
Potassium salts do	40	36	France 27.
Manufactured:			
Nitrogenous	3,012	1,890	Austria 1,711.
Phosphatic, including basic slag.	5,687	81,603	Belgium-Luxembourg 43,168.
Potassic	180,619	165,848	Israel 50,789; France 38,925.
Other	9,300	11,828	France 6,536; Austria 3,816.
Fluorspar	14,793	5,676	NA.
Graphite	9,328	11,156	Austria 9,117; West Germany 1,556.
Gypsum and plasters	616	711	West Germany 332.
Lime	2,494	1,212	NA.
Limestone, for flux, cement, etc	659	30	NA.
Magnesite	45,362	49,558	Greece 18,223; Austria 16,678; Yugoslavia 10,318.
Meerschaum, amber, jet	---	---	
Mica:			
Crude	1,849	2,211	India 1,004; United Kingdom 377.
Worked	100	75	West Germany 22; France 20; Czechoslovakia 13.
Nepheline	748	3,383	NA.
Precious and semiprecious stones, n.e.s.:			
Natural kilograms	21,129	26,590	NA.
Synthetic, including reconstructed kilograms	[r] 21,899	22,019	NA.
Pyrite, unroasted	854,100	931,486	U.S.S.R. 550,392; Cyprus 248,264.
Quartz and quartzite	52,758	49,291	Switzerland 16,648; West Germany 14,409.
Salt	37,542	2,198	U.S.S.R. 2,000.

See footnotes at end of table.

Table 3.—Italy: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964[1]	1965	Principal sources, 1965
Nonmetals—Continued			
Mineral pigments including iron oxides and hydroxides.	5,430	6,171	NA.
Stone, sand and gravel:			
Dimension stone:			
Marble and other calcareous	113,469	127,541	Portugal 70,627; Yugoslavia 25,894.
Granite, porphyry, sandstone, etc.	23,465	29,560	Norway 8,854; South Africa 6,895; Sweden 4,873.
Worked, all types	975	652	France 159.
Gravel and crushed stone	5,340	4,873	France 3,729.
Sand	490,052	683,232	Belgium-Luxembourg 338,021; France 168,126.
Sulfur:			
Crude	61,672	73,334	United States 33,275; France 15,343.
Purified	114	95	France 68.
Sulfuric acid including oleum	263	68	West Germany 58.
Talc and steatite	12,310	11,276	Austria 7,049; India 1,741.
Miscellaneous, n.e.s.:			
Other nonmetallic minerals	38,032	43,874	South Africa 11,990, U.S.S.R. 11,802; West Germany 8,433.
Slag, scale and other nonmetallic waste from iron and steel manufacture thousand tons	23	4	NA.
Nonmetallic building materials, unfired.	1,488	171	United Kingdom 3.
Elements and inorganic chemicals:			
Hydrogen and rare gases	149	141	Canada 72.
Halogens, excluding chlorine	341	104	Japan 34; Chile 30.
Acids and oxygen compounds	7,421	7,629	NA.
Bases	10,443	8,993	NA.
Mineral fuels:			
Asphalt, natural	2,710	2,582	United States 2,332.
Asphalt building products	1,103	576	France 540.
Carbon black	21,725	24,507	United States 10,541; France 4,831.
Coal:			
Anthracite and bituminous thousand tons	10,035	10,310	United States 8,215.
Briquets do	167	107	West Germany 70; France 19.
Chemicals do	59	39	U.S.S.R. 12; Czechoslovakia 7; West Germany 5.
Coke do	365	270	West Germany 218.
Lignite, including briquets do	341	237	West Germany 140; East Germany 46.
Peat, including briquets do	6	7	West Germany 4; Poland 2.
Petroleum gases (liquefied)[4] do	10	10	NA.
Petroleum:			
Crude do	54,972	67,289	Kuwait 26,136; Saudi Arabia 12,446.
Partly refined do	261	NA	NA.
Refinery products:			
Gasoline do	159	109	Netherlands Antilles 44; United States 24.
Kerosine, including white spirit do	11	9	Iraq 2; India 1; United States 1.
Distillate fuel oil do	18	207	Tunisia 53; UAR (Egypt) 45; U.S.S.R. 42.
Residual fuel oil do	1,546	1,901	U.S.S.R. 813; Rumania 183.
Lubricants, including grease do	153	100	United States 54; France 16.
Petroleum coke do	228	224	United States 198.
Bitumen and other[5] do	164	176	NA.
Total refinery products do	2,279	2,726	

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r Revised. NA Not available.

[1] In a number of cases, figures given differ slightly from those appearing in Minerals Yearbook, Volume IV for 1964, in some cases because of revisions in published sources and in other cases because a different source was used.

[2] Excluding artificial corundum.

[3] Includes only material designated for abrasive use.

[4] Mostly produced in petroleum refineries.

[5] Excluding liquefied petroleum gases.

Ivory Coast

Table 1.—Ivory Coast: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Metals:					
Columbium-tantalum concentrate...kilograms..	2,618	1,000	1,500	1,100	20
Manganese ore...metric tons..	106,983	139,063	136,425	179,785	176,186
Nonmetals:					
Cement...thousand metric tons..	---	---	---	---	107
Diamond:					
Gem...carats..	102,208	62,659	120,163	118,985	110,292
Industrial...do....	181,703	117,000	80,108	79,323	73,528
Total...do....	283,911	179,659	200,271	198,308	183,820

Table 2.—Ivory Coast: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum...	106	221	France 70; Niger 64; Dahomey 40.
Copper...	189	3	Overseas Associates of European Economic Community 2; Upper Volta 1.
Iron and steel:			
Scrap...	3,546	7,091	Spain 6,348; Italy 556.
Semimanufactures...	350	554	Mali 311; Upper Volta 128; Niger 54.
Lead...	43	157	Italy 95; France 59.
Manganese, ores and concentrate:			
45 to 47 percent manganese...	84,313	102,722	
40 to 42 percent manganese...	---	18,759	
40 percent manganese...	20,236	6,914	
Mixed percentage...	---	42,129	
Total...	104,549	170,524	United States 107,570; United Kingdom 28,326; Belgium-Luxembourg 13,207; Sweden 10,689; Spain 10,008.
Nonmetals:			
Abrasives, natural...	---	2	France 2.
Diamond...carats..	209,565	204,084	Mainly to France.
Cement, lime, and dimension stone...	236	241	Mali 164; Upper Volta 76.
Clay products...	30	36	Upper Volta 16; Mali 10; Togo 8.
Fertilizer materials, manufactured...	534	279	Upper Volta 267.
Nonmetallic minerals, crude, n.e.s....	3,645	3,750	Upper Volta 2,838; Senegal 903.
Mineral fuels:			
Coal, coke, and briquets...	---	13	All to Upper Volta.
Natural and manufactured gas...	62	---	
Petroleum refinery products:			
Lubricants...	37	---	
Other, undifferentiated...	7	104	Upper Volta 49; Congo (Brazzaville) 22.
Total...	44	104	

Source: Office Statistique Des Communautés Européenes. Côte D'Ivoire. No. 42, 1965, 35 pp. and No. 7, 1966, pp. 50–79.

Table 3.—Ivory Coast: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum	1,175	578	France 380; Belgium-Luxembourg 142.
Copper	112	160	France 152.
Iron and steel:			
Scrap	41	27	France 11; Liberia 7.
Pig iron and ferroalloys	4	17	France 14; West Germany 1.
Steel ingots and equivalent forms	---	(1)	All from France.
Semimanufactures	54,444	46,365	France 35,431; Belgium-Luxembourg 7,475; West Germany 2,773.
Lead, all forms	112	97	France 77; Belgium-Luxembourg 13.
Nickel	---	1	All from France.
Silver, platinum troy ounces	32,151	32,151	Do.
Tin long tons	8	12	Do.
Zinc	41	27	Do.
Metallic ores, n.e.s.	139	2	France 1; West Germany 1.
Nonferrous metals, n.e.s.	(2)	2	France 1; West Germany 1.
Nonmetals:			
Abrasives, natural	32	123	Yugoslavia 92; France 31.
Cement, lime, and dimension stone	249,238	260,827	Yugoslavia 60,263; Poland 54,412; U.S.S.R. 33,740; Belgium-Luxembourg 33,263; France 26,384.
Clay products	1,907	2,606	France 1,779; West Germany 717.
Fertilizer materials:			
Natural	79	516	All from France.
Manufactured	21,881	19,420	France 9,258; West Germany 4,811; Italy 1,885; Belgium-Luxembourg 1,545.
Total	21,960	19,936	
Iron pyrites, unroasted	---	10	All from France.
Sand, gravel, and crushed rock	1,531	2,375	France 2,278.
Nonmetals, crude, n.e.s.	26,328	23,346	Senegal 14,377; France 5,139; Algeria 2,771.
Nonmetallic mineral manufactures [3]	290	449	France 213; Italy 161.
Mineral fuels:			
Coal, coke, and briquets	317	275	France 186; Netherlands 60.
Gas, natural or manufactured	1,808	1,896	France 1,409; Spain 478.
Petroleum, crude	---	198,558	Algeria 136,031; Gabon 62,527.
Petroleum refinery products	286,785	264,075	Venezuela 109,835; Italy 79,989; France 15,203.

[1] Valued at $1,000.

[2] Valued at $2,000.

[3] Includes grinding and polishing wheels and worked mica, and probably also various mineral manufactures not normally included.

Source: Office Statistique Des Communautés Européenes. Côte D'Ivoire. No. 42, 1965, 35 pp. and No. 7, 1966, pp. 50–79.

Jamaica

Table 1.—Jamaica: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Bauxite, dry equivalent:					
Produced for export	6,084,796	5,244,391	6,062,894	6,893,353	7,132,281
Converted to alumina	1,530,623	1,769,519	1,873,574	1,757,668	1,929,237
Cement grade	---	---	---	48,293	76,094
Total	7,615,419	7,013,910	7,936,468	8,699,314	9,137,612
Alumina (exports)	637,719	737,193	780,656	732,361	803,849
Nonmetals:					
Cement, common portland	200,162	200,721	281,339	312,582	355,434
Clays, for cement	NA	NA	55,221	95,684	125,894
Gypsum	228,923	231,969	195,212	211,846	221.485
Limestone	1,708,000	NA	4,300,656	[1] 429,058	[1] 529,747
Marble, cut and/or polished	NA	NA	136,623	NA	NA
Phosphates	57	14	NA	NA	---
Sand and gravel:					
Common sand	NA	NA	273,000	310,428	NA
Glass sand	6,648	5,011	10,474	7,301	8,636
Gravel, natural	NA	NA	668,400	790,214	NA
Mineral fuels: Petroleum refinery products:					
Gasoline ...... thousand 42-gallon barrels	---	---	1,033	1,614	2,008
Kerosine [2] ...... do	---	---	528	993	1,113
Distillate fuel oil ...... do	---	---	[r] 1,208	1,777	1,905
Residual fuel oil ...... do	---	---	3,852	4,561	4,400
Liquefied petroleum gases ...... do	---	---	55	97	122
Asphalt ...... do	---	---	24	54	129
Other ...... do	---	---	NA	247	3

NA Not available.

[1] For cement production only.

[2] May include jet fuel.

Table 2.—Jamaica: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Domestic products:			
Aluminum:			
Bauxite	6,062,984	6,893,350	All to United States.
Alumina	780,413	732,165	Canada 372,060; Norway 223,645.
Metal and alloys, semimanufactures.	20	23	Trinidad and Tobago 9; United Kingdom 6.
Iron and steel: Scrap	20	1,034	Mainly to Netherlands.
Nonferrous metal scrap	1,359	909	Mainly to United Kingdom.
Reexports:			
Iron and steel:			
Ingots and equivalent forms	1	73	Mainly to Cayman Islands.
Semimanufactures	733	6	Do.
Nonferrous metals:			
Unwrought	81	2	Do.
Semimanufactures	103	28	Do.
Nonmetals:			
Domestic products:			
Cement:			
Portland	38,251	51,220	Bahama Islands 24,596; Virgin Islands 2,921.
Other, n.e.s.	---	47,346	Bahama Islands 45,974.
Clay and clay products: Brick and tile.	373	118	Mainly to Bahamas.
Fertilizer materials, not further specified.	254	103	Haiti 100.
Gypsum	139,715	---	
Mica:			
Sheet, block, scrap, or ground kilograms	846	---	
Manufactures do	5	---	
Sand, gravel, crushed rock	6	195,831	All to United States.
Stone, dimension	50	49	United States 48.
Reexports:			
Fertilizer materials	6	2	All to Canada.
Salt	22	---	
Other, n.e.s.	2	20	Mainly to Cayman Islands.
Mineral fuels:			
Coal and coke	3	---	
Petroleum refinery products:[1]			
Gasoline thousand 42-gallon barrels	302	661	Bahama Islands 238; Dominican Republic 143.
Kerosine do	84	166	Bahama Islands 90; Honduras 32.
Distillate fuel oil	3,124	2,644	Honduras 1,626; British Honduras 1,016.
Fuel oil, other	68,738	88,963	Bahama Islands 34,391; Bermuda 18,708; Honduras 11,924.
Lubricants thousand 42-gallon barrels	1	79	Mainly to Caribbean Islands.
Other	51,580	29,739	Panama 18,608.

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[1] In units as reported by source.

Source: External Trade of Jamaica. Department of Statistics, Jamaica. 1964, 275 pp., and 1965, 269 pp.

Table 3.—Jamaica: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Alumina	[e] 3	---	
Metal, including alloys, all forms	1,997	2,093	Mainly from United Kingdom.
Copper:			
Sulfate kilograms	202	1,500	Do.
Metal, including alloys, all forms	209	187	Do.
Iron and steel:			
Scrap iron and steel	702	---	
Pig and sponge iron	596	242	Do.
Ingots and equivalent primary forms.	950	1,265	Do.
Semimanufactures, including castings and forgings.	79,439	83,907	Do.
Lead, including alloys:			
Unwrought	202	114	Mainly from Canada.
Semimanufactures	113	94	Mainly from United Kingdom.
Nickel, including alloys, all forms kilograms	4,470	2,000	Mainly from United States.
Platinum and platinum group metals, unworked and partly worked value	$2,005	$6,476	Mainly from Canada.
Silver, unworked and partly worked do	$4,304	$5,872	Do.
Tin, including alloy and solder:			
Unwrought long tons	234	14	Mainly from United Kingdom.
Other semimanufactures do	3	679	Mainly from France.
Zinc, including alloys, all forms	104	41	Mainly from United Kingdom.
Other value	[r] 4	17	Do.
Nonmetals:			
Abrasives, natural, including industrial diamond.	12	4	Mainly from Italy.
Asbestos:			
Crude fiber	174	356	Canada 226; United Kingdom 129.
Building materials	555	2,904	United States 2,264.
Cement:			
Portland	2,003	1,918	United Kingdom 871; Denmark 632.
Refractory	407	210	Mainly from United Kingdom.
Other	58	26	Do.
Clay and clay products:			
Clay, not further specified	276	1,094	United States 860.
Brick, tile, pipe, and similar products.	1,093	1,244	Mainly from United Kingdom.
Fertilizers, mineral and chemical:			
Nitrogenous:			
Ammonium sulfate	34,022	23,560	Trinidad and Tobago 15,832.
Other	4,815	3,665	Trinidad and Tobago 1,433; Netherlands Antilles 1,047.
Phosphatic:			
Natural phosphates	40	36	Mainly from United States.
Superphosphates, Thomas slag, other manufactured phosphates.	2,978	3,366	Do.
Potassic:			
Potash salts	9,345	6,424	West Germany 4,484.
Other, not specified	969	321	West Germany 305.
Mixed and other, nonspecified	32,476	24,941	Netherlands 14,207; Netherlands Antilles 8,322.
Gem stones, including diamond:			
Uncut value	---	$490	All from Canada.
Cut, unset do	$10,217	$11,379	Guyana $4,304; Canada $4,001.
Graphite, natural kilograms	2,168	8,000	Mainly from West Germany.
Gypsum, limestone, other industrial stone.	141	135	Mainly from United Kingdom.
Magnesite	11	23	Mainly from United States.
Mica:			
Sheet, block, scrap, or ground kilograms	92,134	104,000	Mainly from Norway.
Manufactures do	122	---	
Refractory brick and similar products	3,452	4,627	United States 3,759.
Salt	11,606	11,221	West Germany 3,176; United Kingdom 3,090.
Sand, gravel, crushed rock	662	1,323	Belgium-Luxembourg 891.
Sodium carbonate (soda ash)	2,853	1,982	United States 1,725.
Sodium hydroxide (caustic soda)	85,689	60,299	United States 59,989.
Stone, dimension	56	516	Mainly from Italy.
Sulfur	1,020	1,022	United States 1,016.
Other	625	503	United Kingdom 198; Australia 150.

See footnotes at end of table.

Table 3.—Jamaica: Imports of metals and minerals—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels:			
Coal	91	62	Mainly from United Kingdom.
Coke	784	1,325	West Germany 615; Canada 456.
Briquets of coal, coke, lignite or peat	68	24	West Germany 12; United Kingdom 10.
Gases, liquefied	3,556	168	United States 119.
Petroleum:			
Crude and partly refined thousand 42-gallon barrels	6,772	10,956	Mainly from Venezuela.
Refinery products:			
Gasoline:			
Aviation do	107	61	All from Netherlands Antilles.
Motor do	324	7	Mainly from Netherlands Antilles.
Other do	---	---	
Kerosine do	386	12	Mainly from Netherlands Antilles.
Distillate fuel oil do	515	NA	
Residual fuel oil do	3,143	NA	
Lubricants do	46	46	Netherlands Antilles 19; Trinidad and Tobago 17.
Other do	3	1	Mainly from United States.
Asphalt	12,428	537	Netherlands 310.
Natural asphalt	6,737	2,014	All from Trinidad and Tobago.
Mineral tar and crude chemicals from coal, petroleum and natural gas.	4,379	145	Netherlands Antilles 58; United Kingdom 40.

ᵉ Estimate. ʳ Revised.

[1] May include jet fuel.

Source: External Trade of Jamaica—1964, 1965. Department of Statistics. 275 pp., 269 pp.

Japan

Table 1.—Japan: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Alumina	424,469	510,539	[r] 588,741	625,711	662,280
Metal, ordinary	169,664	222,073	263,862	292,076	335,205
Metal, superpure	1,786	1,869	1,898	1,827	2,067
Oxide, fused	35,830	33,728	36,876	30,091	28,035
Antimony:					
Mine	172	192	503	[r] 183	77
Regulus (metal)	2,268	2,067	[r] 2,324	1,675	1,942
Oxide	1,091	1,175	1,615	1,129	1,368
Arsenic (white)	917	820	[r] 499	[r] 479	547
Bismuth, metal kilograms	259,839	[r] 373,453	506,038	611,078	NA
Cadmium, metal	883	1,012	1,215	[r] 1,480	[e] 1,500
Cerium kilograms	96,181	122,361	NA	126,971	152,506
Chromium:					
Concentrate, almost all low-grade	58,082	43,731	43,955	41,834	32,833
Metal	211.0	456.4	[e] 500	1,090	611
Cobalt kilograms	48,385	20,273	16,380	4,473	NA
Copper:					
Mine	103,620	107,217	106,174	[r] 107,067	111,280
Metal, primary electrolytic	270,430	295,201	341,699	365,682	404,847
Metal, secondary	87,881	88,863	118,086	121,602	NA
Germanium, metal kilograms	22,368	14,493	23,962	17,633	15,051
Germanium, oxide do	18,619	14,385	NA	22,391	NA
Gold, refined thousand troy ounces	[r] 421	433	460	519	555
Iridium troy ounces	150,658	NA	NA	NA	NA
Iron and steel:					
Direct smelting ore thousand tons	1,144	[r] 1,130	[r] 1,132	[r] 1,119	1,116
Iron sands do	1,443	1,295	[r] 1,425	[r] 1,391	1,260
Pyrite sinter do	2,004	1,767	1,926	1,965	1,980
Pig iron do	17,972	19,936	23,778	27,502	32,018
Ferroalloys:					
Ferrochrome	84,528	81,880	136,792	116,817	NA
Ferromanganese	166,593	165,594	211,590	220,744	NA
Ferromolybdenum	505	1,017	1,429	1,247	NA
Ferronickel	35,972	46,883	78,323	73,786	NA
Ferrosilicon	75,355	94,174	113,792	120,789	NA
Ferrotitanium	457	172	NA	NA	NA
Ferrotungsten	883	760	1,178	726	NA
Ferrovanadium	608	1,287	1,128	1,057	NA
Silicomanganese	[e] 100,000	[e] 115,000	148,400	152,400	NA
Steel ingots thousand tons	27,546	31,501	39,799	41,161	47,784
Rolled steel, hot rolled do	20,809	23,307	29,381	30,972	35,760
Lead:					
Mine	53,455	52,717	[r] 54,072	[r] 54,930	63,134
Metal, primary smelter	87,757	92,147	97,034	[r] 108,348	118,583
Metal, secondary refined	NA	68,182	61,338	56,707	59,842
Magnesium, primary only	2,087	2,439	2,937	3,785	[e] 3,800
Manganese:					
Ore, mostly low-grade	308,590	276,717	[r] 284,698	[r] 302,955	310,114
Oxide	9,396	10,308	NA	20,622	23,269
Metal, electrolytic	4,800	4,952	NA	5,567	4,657
Mercury 76-pound flasks	4,199	4,668	4,812	[r] 4,536	[e] 4,500
Molybdenum:					
Mine, MoS_2	623	553	NA	537	472
Metal kilograms	106,667	134,087	NA	[r] 104,865	141,732
Nickel: Metal	5,665	6,190	6,673	6,701	7,182
Palladium troy ounces	1,372	1,326	[r] 1,875	[r] 2,952	5,495
Platinum do	1,872	1,714	[r] 2,199	[r] 2,466	2,733
Selenium kilograms	[r] 140,302	[r] 142,198	[r] 147,837	157,867	192,046
Silicon, high-purity do	6,315	10,743	13,608	12,414	19,836
Silver, electrolytic thousand troy ounces	14,753	15,214	15,966	16,658	18,327
Tantalum kilograms	4,704	5,319	11,298	[r] 6,449	7,244
Tellurium do	10,509	6,013	3,435	9,129	10,297

See footnotes at end of table.

Table 1.—Japan: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals—Continued					
Tin:					
Mine ... long tons	859	[r] 857	[r] 796	[r] 837	[e] 971
Metal, electrolytic and fire ... do	1,822	1,976	1,954	[r] 1,610	1,836
Titanium:					
Slag [2]	524	874	1,960	2,894	4,501
Metal	1,513	1,759	2,993	4,840	5,098
Tungsten:					
Concentrate	920	651	715	[r] 594	586
Metal	440	516	703	[r] 622	675
Zinc:					
Mine	192,481	197,956	[r] 216,456	[r] 221,020	253,304
Metal, electrolytic	158,895	177,127	202,224	245,124	NA
Metal, distilled	86,413	87,210	83,529	96,965	NA
Sulfate	24,944	26,405	[r] 28,641	[r] 27,732	31,032
Oxide	6,656	8,425	NA	35,709	39,066
Zirconium ... kilograms	83,000	53,000	NA	[r] 102	57
Nonmetals:					
Asbestos, chrysotile	13,977	16,520	16,310	[r] 14,924	15,483
Barite	38,116	37,521	39,744	[r] 42,280	40,339
Bromine	2,887	3,546	4,681	3,962	5,056
Cement, all types ... thousand tons	28,787	29,948	32,981	32,689	38,265
China clay (kaolin)	71,860	[r] 99,229	[r] 107,350	89,281	106,812
Dolomite ... thousand tons	1,796	1,752	1,838	[r] 1,674	1,701
Feldspar and aplite	162,254	206,613	256,316	276,458	NA
Fire clay ... thousand tons	904	813	914	984	1,118
Fluorspar	15,531	20,899	[r] 19,122	[r] 16,515	[e] 16,000
Graphite:					
Amorphous	428	457	394	374	234
Crystalline	3,030	2,541	2,056	1,878	1,997
Gypsum ... thousand tons	800	783	[r] 751	[r] 650	598
Iodine	1,409	1,686	2,025	2,193	2,627
Lime, quick ... thousand tons	[r] 1,246	1,385	1,631	1,692	2,013
Limestone ... do	49,964	53,857	60,603	[r] 61,363	71,477
Phosphates (superphosphates) ... do	1,809	[e] 1,663	1,661	1,550	1,191
Potash, carbonate	5,906	5,583	7,565	7,493	10,251
Pyrite, pyrrhotite and cupreous pyrite thousand tons	4,016	3,894	4,146	4,323	4,747
Salt ... do	[r] 879	[r] 747	[r] 893	848	850
Pyrophyllite (powder)	266,575	288,639	320,750	316,716	367,263
Sulfur, refined from ore	223,975	[r] 222,610	241,222	[r] 213,248	229,714
Sulfur, recovered from oil	8,686	11,612	[r] 18,796	[r] 36,565	53,024
Sulfur ore, for making acid ... thousand tons	656	NA	NA	1,112	NA
Sulfuric acid ... do	4,910	4,991	5,372	5,655	6,031
Talc	57,237	68,051	[r] 92,502	[r] 93,196	105,862
Silica:					
Soft silica stone ... thousand tons	2,139	2,124	2,829	[r] 2,853	2,788
High-grade sand	1,524	1,603	1,684	[r] 2,293	2,140
Mineral fuels:					
Carbon black	66,690	80,233	[r] 110,935	122,911	NA
Coal:					
Anthracite ... thousand tons	1,873	1,798	1,709	1,630	1,612
Bituminous ... do	52,526	50,254	49,220	47,904	49,736
Lignite ... do	1,111	914	691	573	452
Coke from coal:					
From coke ovens ... do	11,548	[r] 12,066	[r] 13,697	15,001	17,032
From gas plants ... do	3,454	3,374	3,721	3,670	3,713
Fuel briquets ... do	4,178	4,300	4,082	[r] 3,918	[e] 3,750
Natural gas ... million cubic feet	[r] 45,122	63,243	69,368	[r] 66,431	68,173
Peat ... thousand tons	[e] 75	[e] 75	[e] 70	[e] 70	[e] 70
Petroleum:					
Crude oil ... thousand 42-gallon barrels	5,316	[r] 5,485	4,590	4,944	5,435
Refinery products:					
Gasoline ... thousand 42-gallon barrels	50,362	58,370	62,507	68,611	79,225
Naphtha ... do	14,621	20,651	31,142	45,929	56,819
Jet fuel ... do	3,396	4,299	6,344	8,105	9,425
Kerosine ... do	18,649	24,779	28,395	34,922	39,808
Gas oil ... do	22,270	29,498	34,401	38,329	45,117
Fuel oil A ... do	11,185	11,926	16,329	18,418	24,660
Fuel oil B ... do	32,750	34,788	38,677	40,417	46,147
Fuel oil C ... do	107,175	153,111	189,456	222,174	266,996

See footnotes at end of table.

Table 1.—Japan: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Mineral fuels—Continued					
Petroleum—Continued					
Refinery products—Continued					
Lubricating oil do	5,099	5,403	7,250	7,670	8,618
Liquefied petroleum gas	760,812	1,452,452	2,041,076	2,700,808	3,297,664
Paraffin	49,102	54,200	67,033	68,096	81,752
Petroleum asphalt	622,933	944,318	1,302,520	1,467,420	1,865,017
Petroleum coke	59,414	69,660	84,140	82,940	74,666
Petroleum grease	36,344	35,876	37,990	38,659	42,296
Total refined products thousand 42-gallon barrels	280,260	361,100	439,800	498,033	627,869

[e] Estimate. [r] Revised. NA Not available.

Sources: U.S. Embassy, Tokyo, Japan. Mineral Production Statistics Questionnaire 1964. State Department Airgram A-1422, Apr. 21, 1965. Mining Yearbook of Japan, 1959-63. Ministry of International Trade and Industry. Petroleum Yearbook of Japan, 1961-63. Ministry of International Trade and Industry.

Table 2.—Japan: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	600	800	Taiwan 400.
Alumina	104,268	95,038	United States 70,169; Australia 22,734.
Aluminum hydroxide	NA	7,104	NA.
Metal and alloys:			
Scrap	---	154	India 102.
Unwrought	19,173	29,168	United States 24,257; Argentina 1,864.
Semimanufactures	17,187	25,221	United States 9,160.
Bismuth and alloys, all forms	249	197	United Kingdom 146.
Cadmium and alloys, all forms	351	716	United Kingdom 432; United States 118; Netherlands 97.
Chromium:			
Ore and concentrate	---	1,537	North Korea 1,437.
Oxides and hydroxides	---	532	South Korea 147; Taiwan 142; Australia 58; United States 58.
Cobalt oxides and hydroxides	---	21	West Germany 20.
Copper:			
Ore concentrate and matte	255	---	
Metal and alloys:			
Scrap	---	6,169	Netherlands 1,906; West Germany 885; Italy 745; Sweden 676.
Unwrought	1,621	2,681	Taiwan 1,571.
Semimanufactures	26,652	50,440	United States 15,112; Hong Kong 7,307.
Iron and steel:			
Ore and concentrate (mainly roasted pyrite)	---	11,013	All to Taiwan.
Scrap	4,307	2,801	Ryukyu Islands 1,163; Taiwan 1,118.
Pig, sponge, and cast iron, iron powder, and shot	1,848	6,422	Philippines 3,274; United States 1,000.
Ferroalloys:			
Ferrochrome	3,861	23,733	United States 12,728; United Kingdom 6,450.
Ferromanganese	8,864	15,314	United States 10,591; United Kingdom 2,476.
Ferrosilicomanganese	434	723	United States 417; Singapore 153.
Ferrovanadium	327	311	North Korea 305.
Other	582	1,818	NA.
Primary forms:			
Ingots thousand tons	26	39	Philippines 23; Ryukyu Islands 14.
Blooms, billets, and slabs do	33	419	Argentina 229; Australia 55.
Coils for rerolling do	630	889	United States 637; Spain 101.
Semimanufactures:			
Wire rod do	545	742	United States 620.
Bars and other rods do	602	757	United States 177; Taiwan 90; Australia 72.
Large sections do	235	397	United States 171; Australia 62.
Small sections do	168	323	United States 159; Republic of South Africa 43.
Plates and sheets:			
Heavy, including universals do	680	926	United States 336; Republic of South Africa 93.
Medium do	102	227	United States 126.
Thin, uncoated do	1,338	1,889	United States 739.
Tinplate do	296	356	United States 75; Taiwan 34.
Other coated do	503	571	United States 266; Burma 29.
Hoop and strip do	94	166	United States 22; South Korea 22; Canada 20; Thailand 16.
Rails and accessories do	33	170	Australia 62; Mexico 32; Thailand 18; Pakistan 18.
Wire do	329	393	United States 208; Thailand 36.
Pipes, tubes, and fittings:			
Cast pipes and tubes	7	10	Hong Kong 4; Ryukyu Islands 2; Singapore 2.
Seamless pipes and tubes	253	401	U.S.S.R. 112; mainland China 68; United States 43.
Other pipes and tubes	667	869	United States 488; Saudi Arabia 67.
Fittings	34	145	United States 98; Peru 10.
Castings and forgings	(1)	1	Mainly to United States.
Lead:			
Oxides	---	222	U.S.S.R. 200.
Metal and alloys, unwrought and semimanufactures.	1,301	11,535	United States 4,791; Taiwan 3,157; South Korea 1,404.
Magnesium metal and alloys, all forms	22	107	United States 52; Netherlands 50.

See footnotes at end of table.

Table 2.—Japan: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Manganese:			
Ore and concentrate	---	362	United Kingdom 173.
Oxides	11,577	18,939	West Germany 2,042; United Kingdom 1,700.
Mercury 76-pound flasks	---	2,610	Taiwan 1,595; Netherlands 725.
Molybdenum metal and alloys, all forms	125	25	Australia 13; New Zealand 5.
Nickel:			
Ore, concentrate, matte and speiss	657	723	All to West Germany.
Metal and alloys, unwrought and semimanufactures.	250	384	Mainland China 186; Thailand 58.
Platinum group metals and alloys, all forms thousand troy ounces	5	6	United States 5.
Selenium	46	31	United Kingdom 22.
Silver and alloys, unwrought and semimanufactures thousand troy ounces	2,913	154	Taiwan 60; United States 50; South Korea 36.
Tantalum, metal and alloys, all forms	---	4	West Germany 3.
Tin:			
Ore and concentrate long tons	---	18	All to United Kingdom.
Oxides do	---	87	United States 56; United Kingdom 15.
Metal and alloys, unwrought and semimanufactures long tons	112	331	Thailand 110; Netherlands 70; United Kingdom 64.
Titanium:			
Oxides:			
Rutile type	20,812	21,129	Mainland China 4,029; United States 3,271.
Other	15,166	16,984	United States 9,358; mainland China 2,734.
Metal including alloys, all forms	1,689	3,536	United States 2,433; United Kingdom 683.
Tungsten:			
Ore and concentrate	---	20	All to North Korea.
Metal and alloys, all forms	15	106	India 80; West Germany 8.
Zinc:			
Oxides	173	337	Indonesia 217; Singapore 44.
Dust (blue powder)	---	440	India 323; Taiwan 60; South Korea 52.
Metal and alloys:			
Unwrought	5,405	55,404	United States 13,090; Italy 7,748; India 7,703.
Semimanufactures	858	1,071	Taiwan 186; Indonesia 167; Hong Kong 118; India 117; Philippines 109.
Other:			
Ores and concentrates, n.e.s.	---	1,705	Unspecified 1,023; Taiwan 610.
Metalliferous nonferrous waste and scrap	135	19	All to United Kingdom.
Arsenic, boron, phosphorus, silicon, and tellurium.	NA	461	United States 182; India 119; Pakistan 48.
Alkali, alkaline earth, and rare-earth metals	---	49	NA.
Ferrocerium and other pyrophoric alloys	111	113	Hong Kong 45; Thailand 18; Singapore 13.
Nonferrous base metals, n.e.s.	6,157	11,271	United States 3,463; United Kingdom 2,704; U.S.S.R. 1,420; West Germany 1,360.
Nonmetals:			
Abrasives, except diamond, n.e.s.	463	496	Taiwan 339.
Asbestos, crude	54	769	NA.
Cement thousand tons	1,781	1,601	Indonesia 263; Hong Kong 241; Ryukyu Islands 218; Singapore 209.
Chalk	8,350	8,470	Thailand 1,997; Hong Kong 1,996; Singapore 1,455.
Clays and clay products:			
Crude, clay, n.e.s.	30,651	46,534	Pakistan 30,486; Philippines 6,310.
Construction materials:			
Refractory	19,617	39,545	Philippines 8,262; Pakistan 7,895; South Korea 6,074.
Nonrefractory thousand tons	NA	NA	Over half to United States on basis of value.
Diamond:			
Industrial thousand carats	65	110	United Kingdom 50; South Korea 15.
Gem, not set or strung do	2,006	676	Netherlands 557; Australia 75.
Diatomite and other infusorial earths	456	443	Malaya 190.
Dolomite, crude and calcined	2,316	2,277	Philippines 2,080.
Feldspar, fluorspar and nepheline syenite	1,776	2,619	Taiwan 2,280.

See footnotes at end of table.

Table 2.—Japan: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Fertilizer materials:			
Crude:			
Phosphatic	723	---	
Other	11	---	
Manufactured, excluding ammonia:			
Nitrogenous thousand tons	919	1,363	Mainland China 498; South Korea 394; Taiwan 194.
Phosphatic do	207	194	Mainland China 153.
Potassic do	10	18	Indonesia 9; Ryukyu Islands 7.
Mixed do	163	143	Mainland China 55; Philippines 21; Thailand 20; South Korea 18.
Ammonia, anhydrous do	58	71	Philippines 47; Australia 22.
Gems, including industrial precious and semiprecious stones, not elsewhere specified:			
Dust and powder, including diamond dust thousand carats	NA	25	Sweden 5; United Kingdom 5; United States 5.
Other, excluding diamond and including piezo-electric quartz kilograms	12,817	10,324	United States 4,505; India 3,203; Hong Kong 1,889.
Graphite, natural	351	700	Thailand 459; Burma 153.
Gypsum and plasters	7,002	7,335	Singapore 6,477.
Iodine	1,329	1,396	United States 366; France 312; West Germany 256; India 143.
Limestone, excluding dimension stone thousand tons	359	423	Hong Kong 216; Australia 200.
Lime	5,984	6,255	Singapore 1,827; Hong Kong 1,692; Ryukyu Islands 1,773.
Magnesite	13,605	10,895	United States 8,502; Canada 2,000.
Mica, all forms	72	82	Taiwan 38; mainland China 8.
Phosphorus, red	316	344	India 116; United States 97; Pakistan 48.
Pigments, mineral, iron oxides and hydroxides	403	333	Taiwan 220; West Germany 40.
Sodium and potassium hydroxides and peroxides	42,655	55,142	U.S.S.R. 19,943; Burma 8,200; India 7,637; Philippines 6,045.
Stone, sand and gravel:			
Dimension stone; n.e.s.:			
Crude, roughly split and roughly squared	443	409	Ryukyu Islands 323.
Worked	1,292	1,104	Cambodia 750; Ryukyu Islands 164.
Gravel and crushed stone	4,965	1,063	Ryukyu Islands 269; United States 204; Singapore 104.
Grinding and polishing wheels and stones	801	988	United States 166; Philippines 153.
Quartz and quartzite	---	371	NA.
Sand, excluding metal-bearing	1,462	1,969	Hong Kong 1,337; Philippines 439.
Sulfur:			
Elemental, all forms	156	191	NA.
Sulfuric acid	750	634	Indonesia 239; Ryukyu Islands 145.
Talc, soapstone and steatite	639	4,836	NA.
Other:			
Slags, dross, scalings, and other non-metal-bearing wastes of metallurgical works.	6,777	1,888	NA.
Oxides of barium, magnesium, and strontium	NA	13,260	United States 7,150; Australia 4,670.
Crude nonmetallic substances, n.e.s.	NA	1,723	Taiwan 1,339.
Mineral fuels:			
Coal, coke, and briquets:			
Coal thousand tons	60	67	Mainly to South Korea.
Coke	10	29	South Korea 18; Hong Kong 4; Philippines 3; Thailand 3.
Carbon black	9,000	9,675	Mainland China 2,222; U.S.S.R. 1,831; Taiwan 1,537; Indonesia 1,140.
Gas, fuel, natural and manufactured	3,037	1,184,572	France 1,175,289.
Hydrogen and rare gases	49	42	Singapore 10; Philippines 4.
Petroleum:			
Partly refined oil thousand 42-gallon barrels	18	46	South Korea 45.
Refinery products:			
Gasoline do	2,585	3,333	Ryukyu Islands 1,124; United States 1,112; Australia 888.
Kerosine do	1,383	1,407	Hong Kong 467; Ryukyu Islands 371; Australia 165.
Fuel oil:			
Distillate do	1,217	1,327	Ryukyu Islands 443; Australia 309; Thailand 151.
Residual do	192	106	South Korea 97.
Lubricating oil do	647	916	Taiwan 525; South Korea 293.
Greases	1,488	4,924	Malaya 3,198.
Petroleum jelly and wax thousand tons	12	13	Philippines 2; Taiwan 2; Brazil 2; South Korea 1; Peru 1; Dominican Republic 1
Bitumen do	96	94	Indonesia 42; Pakistan 18; Burma 13.
Other do	37	24	All to South Korea.

[r] Revised. NA Not available.
[1] Less than ½ unit.

Table 3.—Japan: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite and concentrates of aluminum thousand tons	1,622	1,675	Indonesia 564; Malaya 457; Australia 419.
Alumina, all forms	50,233	54,747	Australia 54,212.
Metal and alloys:			
Scrap	25,231	9,376	United States 4,328; Canada 1,363; Hong Kong 1,048.
Unwrought	34,395	42,310	Canada 22,933; U.S.S.R. 13,850; United States 4,895.
Semimanufactures	1,817	940	United States 704.
Antimony, ore and concentrate	6,501	4,545	Bolivia 1,606; mainland China 1,144.
Arsenic, oxides and acids	2,204	2,567	France 1,749; Sweden 760.
Chromium:			
Chromite [1]	396,427	360,299	Philippines 113,971; Turkey 109,200; Republic of South Africa 52,223.
Oxides	52	106	All from West Germany.
Copper:			
Ore, concentrate and matte	620,381	618,621	Philippines 246,631; Canada 188,998.
Metal and alloys:			
Scrap	107,907	64,949	United States 42,227.
Ingot	122,418	115,038	Zambia 81,251; United States 22,827.
Semimanufactures	5,978	11,527	Chile 7,394; United Kingdom 2,936.
Iron and steel:			
Iron ore, including roasted pyrite thousand tons	31,236	39,018	India (including Goa) 7,913; Malaya 6,956; Chile 6,929; Peru 4,532.
Scrap [2] do	4,986	3,363	United States 2,315; India 432.
Pig iron and ferroalloys do	3,423	2,640	U.S.S.R. 775; South Africa 541; mainland China 528.
Ingots and other primary forms do	7	2	Spain 1.
Seminanufactures do	27	22	Australia 8; United States 7.
Lead:			
Ore and concentrate	51,704	67,247	Australia 33,089; Bolivia 11,041; Peru 10,361; South Korea 6,782.
Metal, all forms	70,417	41,262	Peru 10,659; Australia 9,297; Republic of South Africa 8,827.
Magnesium, unwrought and semimanufactures.	898	569	United States 394.
Manganese ore and concentrate [3]	558,951	1,064,839	India 457,080; U.S.S.R. 108,228; Brazil 103,402.
Mercury 76-pound flasks	5,065	2,747	Italy 1,329; Spain 1,279.
Molybdenum:			
Ore and concentrate	5,078	5,032	United States 3,010; Canada 1,066.
Metal, all forms	112	62	U.S.S.R. 40; United States 12.
Nickel:			
Ore and concentrate (low grade)	1,143,228	966,742	New Caledonia 862,829; Indonesia 79,450.
Matte	5,429	4,357	New Caledonia 4,344.
Metal and alloy products	3,398	3,314	Canada 1,709; Norway 826.
Palladium thousand troy ounces	168	261	U.S.S.R. 213; United Kingdom 34.
Platinum do	166	181	U.S.S.R. 84; United Kingdom 55.
Silver do	9,937	4,789	United States 3,212; Peru 1,382.
Tantalum	119	137	United States 106.
Tin:			
Ore and concentrate long tons	2,811	762	Thailand 741.
Metals and alloys, unwrought and semimanufactures do	16,029	14,621	Malaya 12,835; mainland China 1,673.
Titanium:			
Ore and concentrate	185,986	211,949	Malaya 93,443; Australia 54,958; Ceylon 45,343.
Slag	42,110	32,676	All from Canada.
Tungsten:			
Concentrate	2,852	1,501	Australia 381; Peru 246; South Korea 209; mainland China 174.
Metal, all forms	2	2	Mainly from the United States.
Vanadium concentrate	NA	93	South Africa 41; Republic of the Congo (Lèopoldville) 25; United States 17.
Zinc:			
Ore and concentrate	288,447	380,332	Peru 204,117; Mexico 44,237.
Metal, including alloys, unwrought and manufactures.	69,041	7,129	Australia 2,223; North Korea 1,489; U.S.S.R. 1,460.

See footnotes at end of table.

Table 3.—Japan: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Other:			
Precious metal ores	15	1,353	Peru 1,300.
Metal-bearing ash, slag, and other waste.	93,378	10,496	United States 3,781; Australia 2,644; Zambia 1,059.
Metal oxides, primarily for use in paint.	1,778	1,183	United States 469; West Germany 280; Belgium-Luxembourg 254.
Metals:			
Alkali and alkaline earth	16	19	West Germany 13.
Arsenic, boron, phosphorous, selenium, silicon, and tellurium.	203	530	United States 490.
Nonferrous base metals and alloys, n.e.s.	2,667	1,513	Republic of the Congo (Lèopoldville) 664; Belgium-Luxembourg 556.
Pyrophoric alloys	3	6	Australia 3.
Nonmetals:			
Abrasives, natural, crude, except diamond.	2,382	2,172	United States 2,052.
Asbestos	143,969	133,522	Canada 71,767; Republic of South Africa 26,271.
Barite	11,343	14,310	Mainland China 8,902; India 3,094.
Boron materials:			
Crude natural borates	2,525	4,452	Turkey 3,358; United States 1,094.
Boric oxides and acids	7,504	6,235	United States 6,234.
Cement	5,458	3,663	France 3,262.
Clay and clay products:			
Kaolin	53,769	60,068	United States 31,533; South Korea 21,050.
Other crude clay	108,991	111,228	Republic of South Africa 53,234; United States 24,453; South Korea 16,369.
Clay products including refractories.	9,389	5,917	United States 4,585.
Cryolite and chiolite	7,547	6,334	All from Denmark.
Diamond:			
Industrial.....thousand carats	385	390	United Kingdom 135; United States 120; Netherlands 60; Belgium 30.
Other, not set or strung...do	699	330	Belgium 108; Israel 83; Netherlands 41, United Kingdom 26.
Dolomite	12,671	20,649	South Korea 20,619.
Fertilizer materials:			
Crude:			
Phosphatic..thousand tons	2,316	2,418	United States 1,646; Morocco 271; Senegal 162; French Oceania 145; Togo 110.
Potassic	2,561	19,511	United States 18,001.
Organic, including guano	5,763	544	United States 543.
Manufactured:			
Potassic.....thousand tons	1,073	1,083	Canada 356; United States 341; U.S.S.R. 168.
Other, including mixed	1,161	7,624	All from United States.
Feldspar, fluorspar, and nepheline syenite:			
Fluorspar	206,840	171,561	Mainland China 62,420; Thailand 50,887; South Korea 30,413.
Other	5,985	4,325	South Korea 2,445.
Gem stones, including industrial:			
Dust and powder, including diamond.............kilograms	---	359	United States 132; United Kingdom 101.
Unworked and partly worked, excluding diamond.......do	258,711	296,632	Brazil 172,186; Republic of South Africa 46,542.
Graphite:			
Crystalline and special amorphous	6,483	6,195	Ceylon 1,782; South Korea 1,596; Malagasy Republic 1,004.
Amorphous	50,185	46,067	South Korea 40,201; North Korea 5,815.
Gypsum and plasters	90,988	50,332	Morocco 25,232; United Arab Republic 25,016.
Limestone, excluding dimension stone	1,016	---	
Magnesite, including magnesia clinker	24,007	26,171	North Korea 12,046; mainland China 6,257; U.S.S.R. 4,123.
Mica, crude and partly worked	5,588	6,612	India 5,493.
Salt...............thousand tons	3,634	3,543	Mexico 911; mainland China 785; United States 374.
Stone, sand and gravel:			
Quartz and quartzite:			
Electronic and optical grade	228	226	Brazil 162; United States 46.
Other crude and partly worked.	41,764	41,847	South Korea 35,543.

See footnotes at end of table.

Table 3.—Japan: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Stone, sand and gravel—continued			
Dimension stone:			
Crude and partly worked	31,063	32,164	Italy 7,443; Sweden 5,039; Republic of South Africa 3,294.
Worked	3,341	1,219	Mainland China 967.
Gravel and crushed stone	13,256	11,943	South Korea 5,073; France 3,738; mainland China 1,798.
Sand, excluding metal-bearing sand.	179,199	96,607	South Viet-Nam 94,494.
Grinding stones and wheels	128	NA	NA.
Sulfur and pyrite:			
Sulfur, all types	24,615	53,972	Canada 28,749; mainland China 25,200.
Pyrite, unroasted	---	29,440	U.S.S.R. 15,155; Canada 8,806.
Talc, soapstone, and pyrophyllite:			
Talc	26,827	25,094	Mainland China 11,303; South Korea 5,000; U.S.S.R. 4,465.
Soapstone (natural steatite)	33,931	28,582	U.S.S.R. 10,335; mainland China 8,630; South Korea 7,145.
Other:			
Nonmetals, crude, n.e.s.	77,247	61,077	Philippines 34,142; South Korea 6,585.
Slag and similar metallurgical waste, not containing metal.	123,390	162,187	India 94,708; Canada 32,676.
Oxides of barium, strontium, and magnesium.	4,750	115	United States 83.
Mineral fuels:			
Asphalt and bitumen, natural, crude	3,944	3,269	United States 3,266.
Carbon black	2,716	2,075	United States 1,924.
Coal and coke:			
Anthracite coal thousand tons	1,238	1,165	North Viet-Nam 428; South Korea 215; Republic of South Africa 182.
Heavy coking coal:			
With less than 8 percent ash do	6,856	8,769	United States 6,745; Australia 1,745.
With more than 8 percent ash do	3,450	4,721	Australia 2,855; U.S.S.R. 783.
Other bituminous coal, mainly for coking do	1,689	2,475	Australia 2,020.
Total do	13,233	17,130	
Coke do	---	49	Mainly from West Germany.
Gas, natural and manufactured (liquefied).	380,929	503,160	Kuwait 319,282; Saudi Arabia 157,179.
Gases, hydrogen and rare	20	109	Canada 91.
Petroleum:			
Crude thousand 42-gallon barrels	444,877	508,467	Kuwait 205,084; Iran 110,818; Saudi Arabia 96,353, Kuwait-Saudi Arabia Neutral Zone 69,869.
Partly refined do	9,117	20,777	Kuwait 10,292; Venezuela 3,058.
Refinery products:			
Gasoline do	3,544	4,114	Kuwait 1,056; United Arab Republic 892; Saudi Arabia 712; Indonesia 447.
Kerosine do	219	202	Mainly from United States.
Distillate fuel oil do	200	220	Venezuela 211.
Residual fuel oil do	76,497	89,366	Kuwait 13,440; Iran 11,588; Saudi Arabia 11,024; U.S.S.R. 9,051.
Lubricants do	3,064	3,650	NA.
Petrolatum and waxes do	74	67	Mainly from United States.
Petroleum coke do	4,892	5,288	United States 4,716.
Other do	20	1,783	U.S.S.R. 706; Saudi Arabia 302; Netherlands Antilles 265; Venezuela 221.

NA Not available.

[1] Includes both refractory and metallurgical chromite; originating in the Philippines is refractory grade.

[2] Includes only that scrap classified as for smelting; scrap classified as suitable for remanufacturing comprising 113,439 tons in 1964 and 43,479 tons in 1965 is not included.

[3] Includes ferruginous manganese ore, which amounted to 226,424 tons in 1964 and 365,109 tons in 1965.

Jordan

Table 1.—Jordan: Production of mineral commodities

Commodity [1]	1962	1963	1964	1965	1966
Nonmetals:					
Cement thousand metric tons	235	285	308	305	375
Gypsum metric tons	8,660	[e] 8,700	NA	NA	NA
Marble square meters	15,600	11,450	1,800	[e] 2,000	[e] 200
Phosphate rock thousand metric tons	681	614	[e] 604	828	1,036
Salt do	19	18	20	20	13
Mineral fuels: Petroleum refinery products:					
Gasoline thousand 42-gallon barrels	328	NA	[e] 450	460	658
Kerosine do	432	NA	[e] 511	595	547
Distillate fuel oil do	812	NA	[e] 813	954	1,014
Residual fuel oil do	256	NA	[e] 506	600	606
Other do	104	NA	[e] 406	410	366
Total (including refinery fuel and losses) do	2,032	[2] 2,235	2,685	2,979	3,191

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, Jordan also produces limestone for cement manufacture.

[2] Estimate, based on reported 10 percent increase in refinery output.

Table 2.—Jordan: Export of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals:			
Cement	11,708	11,217	All to Saudi Arabia.
Granite and other stone	2,003	5,519	Syrian Arab Republic 1,914; Lebanon 1,751.
Lime	335	333	All to Saudi Arabia.
Marble	1,062	1,312	Lebanon 544; Syrian Arab Republic 391.
Phosphate (dry)	627,074	604,648	NA.
Salt	NA	6,045	All to Syrian Arab Republic.
Sand	NA	1,271	All to Lebanon.
Sand (bituminous), natural	NA	15,278	Lebanon 8,868; Saudi Arabia 5,345.

NA Not available.

Source: Ministry of Finance, Department of Statistics. External Trade Statistics, Amman, 1965, 495 pp.

Table 3.—Jordan: Import of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys	211	397	Mainland China 252; West Germany 80.
Copper and alloys	252	172	Saudi Arabia 68; West Germany 49.
Iron and steel, semimanufactures	57,185	68,913	Czechoslovakia 13,735; U.S.S.R. 10,261; Belgium 9,701; France 6,951.
Lead and alloys	---	344	West Germany 85; United Kingdom 75; U.S.S.R. 51.
Tin and alloys ... long tons	19	19	United Kingdom 13; West Germany 3.
Nonmetals:			
Cement	4,279	5,379	Denmark 2,440; Iraq 2,007.
Fertilizer materials:			
Nitrogenous	2,563	3,675	West Germany 1,741; United Kingdom 498.
Phosphatic	2,245	2,755	Lebanon 1,693; Netherlands 474.
Potassic	4,080	6,248	West Germany 2,823; Austria 1,080; Italy 797.
Marble	359	562	Italy 452; Lebanon 87.
Sulfur	2,356	2,300	Lebanon 1,053; United States 788.
Mineral fuels:			
Coal	617	554	Lebanon 422; Belgium 54.
Petroleum:			
Crude thousand 42-gallon barrels	2,648	2,997	All from Saudi Arabia.
Refinery products:			
Gasoline ... do	45	86	United States 60; Netherlands 14.
Kerosine ... do	85	179	United States 57; Aden 49; Iran 45.
Distillate fuel oil ... do	49	NA	NA.
Lubricants ... do	41	42	United Kingdom 14; United States 12; Netherlands 7.
Total ... do	220	NA	

NA Not available.
Source: Ministry of Finance, Department of Statistics. External Trade Statistics, Amman, 1965, 495 pp.

Kenya

Table 1.—Kenya: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Beryl	---	---	1	1	---
Columbite kilograms	[1] 375	---	---	---	---
Copper, concentrate	2,225	2,244	2,077	1,969	793
Gold troy ounces	9,327	10,193	12,480	11,420	11,988
Silver do	50,160	52,422	47,702	21,247	19,003
Nonmetals:					
Asbestos	192	71	185	123	66
Barite	---	---	---	36	98
Carbon dioxide, natural	465	517	746	762	817
Cement thousand tons	346	[r] 344	422	[r] 484	484
Coral	2,154	---	---	---	NA
Diatomite	2,909	3,336	3,055	2,218	1,772
Feldspar	---	---	---	---	164
Gem stone, sapphire and other carats	---	800	2,204	4,212	3,525
Gypsum	26,844	20,728	27,994	34,474	33,743
Kaolin	1,174	6,663	1,288	1,714	893
Lime	NA	NA	4,115	NA	NA
Limestone, other than for cement	18,284	16,448	12,095	NA	16,734
Magnesite	---	261	170	67	678
Meerschaum kilograms	---	6,000	204	2,000	694
Mica do	1,000	800	(2)	---	---
Pumice	1,128	1,129	1,438	1,039	793
Quartz	---	259	---	---	---
Salt thousand tons	19	17	27	[r] 31	32
Sandstone	49,177	---	---	---	---
Soda, raw crushed	2,924	2,342	2,220	2,548	2,463
Soda ash	124,081	103,506	81,670	83,194	112,400
Vermiculite	20	92	34	22	76
Mineral fuels, petroleum refinery products:					
Gasoline	---	20,229	214,895	[e] 221,000	NA
Kerosine	---	9,793	113,086	[e] 175,000	NA
Distillate fuel oil	---	20,856	223,937	[e] 243,000	NA
Residual fuel oil	---	77,363	902,760	[e] 588,000	NA
Liquefied petroleum gas	---	86	4,877	NA	NA
Bitumen and other products	---	---	10,668	[e] 10,000	NA
Total	---	128,327	1,470,223	[e] 1,237,000	NA

[e] Estimate. [r] Revised. NA Not available.

[1] Includes oxides of rare earths.

[2] Less than ½ unit.

Table 2.—Exports of mineral commodities to countries outside the East African Common Services Organization [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965 [2]
Metals:		
Aluminum, semimanufactures	177	NA
Copper, unwrought	3,412	3,724
Gold, troy ounces	12,162	13,813
Iron and steel:		
Semimanufactures	52	NA
Scrap	22,924	8,757
Nonferrous metal scrap	2,715	3,004
Platinum, troy ounces	8	---
Silver, do	46,834	29,750
Nonmetals:		
Cement	174,124	199,418
Diatomite	1,672	NA
Lime	1	NA
Salt	12	18
Soda ash, sodium carbonate	65,023	74,681
Crude minerals, not further described, value	$1,114	NA
Mineral fuels:		
Petroleum refinery products:		
Gasoline, thousand 42-gallon barrels	40	46
Kerosine, do	17	681
Distillate fuel oil, do	177	302
Residual fuel oil, do	2,558	3,136
Liquefied petroleum gas	1,954	NA
Asphalt and bitumen	2,625	NA

NA Not available.

[1] Does not include re-exports.

[2] Data on destinations by country are not available.

Table 3.—Kenya: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]
Metals:		
Aluminum:		
Unwrought	891	735
Semimanufactures	642	NA
Copper:		
Unwrought	32	NA
Semimanufactures	150	NA
Gold bullion troy ounces	5,285	6,858
Iron and steel:		
Iron ore	2,551	NA
Iron and steel scrap	7	NA
Pig iron and ferroalloys	646	NA
Ingots and other primary forms	33	NA
Semimanufactures	63,656	78,411
Lead:		
Unwrought	97	NA
Semimanufactures	10	NA
Nickel, unwrought	3	NA
Tin, unwrought long tons	48	NA
Zinc:		
Unwrought	1,443	NA
Semimanufactures	13	NA
Nonferrous metal scrap	8	NA
Nonmetals:		
Abrasives, grinding and polishing wheels, and stones	52	NA
Cement	1,318	175
Feldspar, fluorspar, cryolite and chiolite	2,301	NA
Fertilizers:		
Nitrogenous	32,178	70,550
Phosphatic	12,453	
Potassic	369	
Other, manufactured, including mixed	10,610	
Graphite	3	NA
Lime	28	NA
Mica, crude	9	NA
Salt	12,096	5,549
Stone, sand and gravel	528	NA
Sulfur	1,410	NA
Mineral fuels:		
Solid:		
Coal	33,171	54,737
Coke	1,592	
Petroleum:		
Crude thousand tons	1,500	1,844
Refinery products:		
Gasoline thousand 42-gallon barrels	[r] 115	60
Kerosine do	[r] 317	42
Distillate fuel oil do	[r] 384	60
Residual fuel oil do	[r] 58	5
Lubricating and other oils do	103	104
Grease, jelly and wax	[r] 658	734
Asphalt and bitumen	[r] 4,528	NA
Liquefied petroleum gas	417	NA
Other refinery products, not further described	22,292	NA

[r] Revised. NA Not available.

[1] Data on sources by country are not available.

North Korea

Table 1.—North Korea: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals:					
Cadmium, electrolytic	90	100	100	100	100
Copper:					
Mine	8,000	8,000	10,000	12,000	12,000
Electrolytic	10,000	10,000	10,000	12,000	12,000
Gold .... troy ounces	160,000	160,000	160,000	160,000	160,000
Iron and steel:					
Iron ore and concentrates .... thousand tons	3,340	3,860	4,800	5,900	6,000
Pig iron [3] .... do	1,213	1,159	1,340	r 1,450	1,500
Steel ingot .... do	1,050	1,022	r 1,049	1,230	1,300
Rolled steel .... do	633	762	950	1,080	1,100
Ferroalloys .... do	25	25	30	35	35
Lead:					
Mine	50,000	50,000	55,000	60,000	60,000
Smelter, primary	40,000	40,000	45,000	50,000	50,000
Nickel, electrolytic	400	400	500	1,000	1,000
Silver .... troy ounces	640,000	640,000	640,000	640,000	640,000
Tungsten concentrate	4,000	4,000	4,000	4,400	4,400
Zinc:					
Mine	90,000	100,000	100,000	105,000	105,000
Electrolytic	60,000	65,000	70,000	75,000	75,000
Nonmetals:					
Apatite	200,000	200,000	200,000	200,000	200,000
Barite	60,000	70,000	70,000	80,000	80,000
Cement .... thousand tons	2,376	2,530	2,610	2,400	2,500
Fluorspar	30,000	30,000	30,000	30,000	30,000
Graphite	65,000	70,000	70,000	70,000	75,000
Magnesite:					
Ore as mined .... thousand tons	500	800	900	900	1,000
Clinker .... do	200	385	400	400	450
Pyrite, gross weight .... do	350	400	420	450	450
Salt .... do	421	450	400	500	550
Talc and soapstone	20,000	r 30,000	r 40,000	r 50,000	50,000
Mineral fuels:					
Coal:					
Anthracite .... thousand tons	9,000	9,700	11,200	r 14,500	15,500
Bituminous [4] .... do	4,000	4,000	r 3,000	r 3,000	3,800
Other .... do	200	340	300	300	200
Total .... do	13,200	14,040	14,500	17,800	19,500
Coke .... do	1,100	1,200	1,400	1,600	1,800

[1] All figures are estimated, except for iron and steel items (1962–64), magnesite (1963 only), salt (1962 only), and coal (1962–64). The firm figures are official North Korean data.

[2] Many other mineral commodities are produced, but reasonable output estimates cannot be made. These include antimony, beryl, bismuth, chrome, cobalt, manganese ore, mineral sands (ilmenite, zircon, columbite, rutile, monazite), minor and rare metals (selenium, tellurium, germanium, indium), molybdenite, alum, arsenopyrite, asbestos, boracite, clays, kaolin, lepidolite, limonite, mica (phlogopite), and silica (including glass sands).

[3] Includes Krupp-Renn granulated iron or luppe.

[4] Low calorific value, much of which might be classified as low-rank coals.

Table 2.—North Korea: Exports of selected mineral commodities to the Soviet Union and Japan

(Metric tons unless otherwise specified)

Commodity	Soviet Union		Japan	
	1964	1965	1964	1965
Metals:				
Cadmium	NA	NA	21	23
Copper	------	------	279	136
Iron and steel:				
Iron ore	------	------	351,463	407,524
Pig iron	45,100	47,700	147,014	97,563
Sponge iron	------	------	15,568	------
Granulated iron	------	------	15,922	2,988
Ferrochromium	------	------	------	------
Ferrosilicon	[r] 1,100	1,500	------	20
Rolled steel	66,900	66,500	------	------
Lead:				
Concentrate	------	------	------	867
Metal	17,600	16,600	195	762
Silver troy ounces	------	------	48,330	32,149
Titanium ores	------	------	6,243	1,478
Zinc:				
Concentrates	32,200	15,900	1,033	14,117
Metal	24,700	8,000	7,839	1,489
Nonmetals:				
Barite	23,400	45,700	1,918	2,314
Cement	21,000	67,000	------	------
Fluorspar	NA	NA	5,698	3,639
Graphite (mostly amorphous)	300	------	4,714	6,035
Magnesia clinker	80,100	137,900	13,567	10,469
Magnesite	------	------	------	1,577
Quartz and quartzite	------	------	1,919	2,322
Soapstone	NA	NA	2,793	2,471
Talc	18,800	21,900	3,230	2,241
Mineral fuels: Anthracite	------	------	33,095	13,573

[r] Revised NA Not available.

Source: Derived from official import statistics of the Soviet Union and Japan.

Table 3.—North Korea: Imports of petroleum products from the Soviet Union [1]

(Metric tons)

Commodity	1963	1964	1965
Gasoline	238,300	209,100	172,900
Kerosine	4,900	6,200	1,600
Diesel fuel	162,200	168,700	175,000
Mazut (mainly fuel oil)	2,600	2,100	2,300
Lubricating oil	38,000	47,300	35,900
Greases	2,100	1,400	1,900
Paraffin	1,500	1,700	1,200

[1] North Korea's main source of petroleum products has been the U.S.S.R.

Source: Data derived from official export statistics of the Soviet Union.

South Korea

Table 1.—South Korea: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum semimanufactures	7,310	7,272	6,720	[r] 6,222	[e] 4,000
Bismuth:					
Concentrate (30 to 45 percent bismuth)	534	528	[r] 500	[e] 400	[e] 350
Smelter (99 percent bismuth)	154	135	132	80	97
Copper:					
Ore (2 to 10 percent copper)	10,726	12,297	12,147	17,587	21,073
Content of metal [e]	430	615	850	1,400	1,600
Electrolytic	2,210	2,379	2,810	[r] 2,279	3,872
Sheet	740	1,518	1,651	NA	NA
Gold, fine troy ounces	106,048	90,092	75,791	62,836	60,765
Gold-silver ore	-----	-----	-----	-----	29,055
Iron and steel:					
Iron ore and concentrate (45 to 57 percent iron) thousand tons	471	501	685	735	789
Pig iron do	2	5	6	21	21
Steel ingots (mostly from scrap) do	151	162	134	194	[e] 218
Lead:					
Concentrate (50 percent lead)	2,825	3,834	6,695	8,849	13,890
Plate	299	585	926	639	NA
Smelter	-----	-----	[e] 40	[e] 800	1,608
Manganese ore (40 percent manganese)	1,002	4,155	4,312	6,691	5,972
Molybdenum concentrate (90 percent MoS_2)	138	130	223	376	553
Nickel ore (3 to 4 percent nickel)	868	855	599	37	NA
Silver, fine thousand troy ounces	413	444	404	434	499
Tin concentrate long tons	NA	-----	-----	-----	55
Tungsten ore and concentrate (65 to 85 percent tungsten trioxide)	5,797	4,740	4,657	3,837	3,703
Zinc:					
Concentrate (50 percent zinc)	839	2,260	5,080	14,232	23,386
Oxide	2,208	2,568	3,130	2,395	[e] 1,200
Electrolytic	-----	-----	-----	-----	1,424
Nonmetals:					
Asbestos	1,209	1,923	1,272	1,551	623
Barite (90 to 95 percent barium sulfate)	920	2,758	2,743	1,287	36
Cement thousand tons	790	778	1,242	1,614	1,884
Diatomite	688	1,694	37,223	579	275
Feldspar	4,726	11,575	13,684	15,845	15,294
Fluorspar (90 to 95 percent calcium fluoride)	32,970	39,785	56,397	39,167	32,008
Graphite:					
Amorphous (75 to 80 percent carbon)	183,879	337,985	262,382	254,251	128,780
Crystalline (74 to 87 percent carbon)	1,216	1,692	2,076	2,768	2,161
Kaolin	38,193	52,262	60,536	72,244	112,234
Limestone thousand tons	1,260	1,363	2,220	3,090	2,926
Monazite	-----	-----	-----	-----	12
Pyrite	-----	38	60	171	3,745
Pyrophyllite	18,112	31,811	46,158	48,914	54,690
Salt thousand tons	388	230	386	669	393
Silica sand (95 percent silica)	21,153	16,363	49,718	34,008	[e] 40,000
Talc	28,368	32,393	43,900	35,732	53,609
Mineral fuels:					
Carbon black	-----	125	315	329	[e] 400
Coal, anthracite thousand tons	7,444	8,858	9,622	10,248	11,613
Fuel briquets (anthracite-clay mix) do	4,953	3,452	5,976	6,738	NA
Peat do	124	116	115	[e] 115	[e] 100
Petroleum refinery products:					
Gasoline thousand 42-gallon barrels	-----	-----	[r] 583	1,411	[e] 2,010
Solvent do	-----	-----	11	33	[e] 60
Kerosine do	-----	-----	316	512	[e] 760
Diesel oil do	-----	-----	1,150	3,076	[e] 3,720
Fuel oil do	-----	-----	2,644	3,449	[e] 2,410
Bunker "C" do	-----	-----	76	1,187	[e] 2,690
Other do	-----	-----	-----	421	[e] 1,260
Total do	-----	-----	[r] 4,780	10,089	[e] 12,910

[e] Estimate. [r] Revised. NA Not available.

Table 2.—South Korea: Exports of mineral commodities
(Metric tons)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum semimanufactures	1,078	130	South Viet-Nam 100.
Copper:			
Unwrought	1,400	125	All to Netherlands.
Semimanufactures [e]	663	800	Mostly to South Viet-Nam.
Iron ore	486,898	708,871	Japan 708,811.
Iron and steel	35,331	66,349	South Viet-Nam 54,564 [1].
Lead concentrates	10,991	7,090	Japan 6,807.
Manganese ore	1,115	2,810	All to Japan.
Molybdenum:			
Metal	263	333	Japan 233; United Kingdom 42.
Concentrate	101	199	Japan 50; United Kingdom 37.
Tungsten concentrate (includes synthetic scheelite).	5,463	4,106	United Kingdom 952; Belgium 863; United States 687; Sweden 508; Netherlands 348; West Germany 253; Japan 238.
Zinc concentrate	5,085	13,914	All to Japan.
Nonmetals:			
Barite	2,601	1,114	All to Taiwan.
Cement	21,723	54,884	South Viet-Nam 37,488.
Dolomite (includes calcined)	12,000	19,712	All to Japan.
Feldspar	4,196	4,618	Japan 3,716; Taiwan 790.
Fluorspar	22,270	32,527	Japan 30,577; Taiwan 1,215.
Graphite:			
Amorphous	39,150	43,124	Japan 38,546; Taiwan 2,700; United States 1,118.
Crystalline	3,559	5,750	Japan 5,470; Taiwan 102.
Kaolin	13,381	20,375	Japan 19,544; Taiwan 530.
Leucite, nepheline, and nepheline syenite.	6,895	16,772	Japan 15,821; Taiwan 950.
Quartz and quartzite	22,413	32,867	All to Japan.
Silica sand	4,472	1,051	All to Japan.
Talc	26,908	19,427	Japan 11,575; South Viet-Nam 1,860; Philippines 1,489.
Mineral fuels: Anthracite coal	251,533	204,961	Japan 204,911.

[e] Estimate.

[1] Includes 39,054 metric tons of plates and sheets.

Source: Ministry of Finance, Republic of Korea. Yearbook of Foreign Trade Statistics. 1965, 184 pp.

Table 3.—South Korea: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum, unwrought	2,695	6,637	United States 3,245; Taiwan 2,903.
Copper:			
Ore	828	---	
Scrap	2,069	991	United States 990.
Unwrought	100	---	
Iron and steel:			
Scrap	44,481	77,129	United States 75,337.
Ferroalloys	3,129	424	Taiwan 217; United States 78.
Pig iron	18,785	9,252	Unspecified.
Steel ingots	25,300	13,317	All from Japan.
Semimanufactures	85,759	169,437	Japan 155,827.
Lead:			
Scrap	820	356	All from United States.
Unwrought	[r] 524	1,491	Japan 1,353.
Mercury ... 76-pound flasks	983	548	Mexico 530.
Nickel	[r] 50	53	United States 32.
Tin ... long tons	218	[e] 130	Mostly from United States.
Titanium dioxide	1,605	1,594	United States 1,230; Japan 324.
Zinc:			
Scrap	97	11	All from United States.
Unwrought	3,835	8,842	Japan 6,213.
Nonmetals:			
Asbestos	3,104	6,385	United States 4,676; Canada 1,384; Japan 271.
Cement	28,237	6,069	United States 4,056.
Fertilizers:			
Ammonium sulfate	208,034	345,281	All from Japan.
Others	548,822	631,581	United States 299,498 [1]; Japan 221,775.
Total	756,856	976,862	Japan 567,056; United States 299,498.
Gypsum	46,191	41,545	Mexico 37,045; United States 4,500.
Magnesite	2,004	1,270	Taiwan 1,120.
Potash	50,723	56,406	United States 46,083.
Sulfur	7,710	---	
Mineral fuels:			
Coal:			
Anthracite	1,636	17,792	Unspecified.
Bituminous	161,093	99,587	Japan 55,132; Australia 36,246.
Coke and semi-coke	4,545	17,171	All from Japan.
Petroleum:			
Crude and partly refined thousand 42-gallon barrels	[e] 5,400	[e] 10,495	Mostly from Middle East.
Refinery products:			
Gasoline ... do	[e] 175	25	Japan 10.
Kerosine ... do	78	---	
Distillate fuel oil ... do	2,080	789	Taiwan 129; Japan 99.
Residual fuel oil ... do	1,280	88	All from Japan.
Lubricants ... do	140	33	United States 16.
Pitch and asphalt thousand tons	29	40	Japan 32.
Others ... do	4	5	United States 4.

[e] Estimate. [r] Revised.

[1] Includes an estimated 80,000 tons of phosphate rock.

Source: Ministry of Finance, Republic of Korea. Yearbook of Foreign Trade Statistics. 1965, 184 pp.

Kuwait

Table 1.—Kuwait: Production of petroleum and petroleum products

(Thousand 42-gallon barrels)

Commodity	1962	1963	1964	1965	1966
Crude petroleum	669,284	705,471	774,815	791,903	830,537
Refinery products:					
Gasoline	2,505	2,167	1,625	1,901	2,668
Jet fuel	151	204	202	224	357
Kerosine	300	317	345	335	335
Distillate fuel oil	16,072	18,604	20,284	19,766	21,171
Residual fuel oil	37,292	38,419	41,455	41,878	42,270
Liquefied petroleum gas	956	1,774	2,886	4,030	NA
Other refinery products	5,302	5,101	4,853	16,154	15,674
Refinery fuel and loss	8,303	7,483	6,457	539	491
Total output, including refinery fuel and loss	70,881	74,069	78,107	84,827	NA

Table 2.—Kuwait: Exports of mineral fuels

(Thousand 42-gallon barrels)

Commodity	1964	1965
Crude petroleum	696,675	710,299
Refinery products:		
Light distillate	9,157	12,164
Distillate fuel oil	19,217	18,696
Residual fuel oil	15,329	17,079
Liquefied petroleum gas	2,852	4,031
Total	46,555	51,970
Bunkers, all flags:		
Diesel oil	789	656
Residual fuel oil	26,037	24,044

Table 3.—Kuwait: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Iron and steel, semimanufactures	108,746	133,684	Mainland China 24,347; West Germany 19,617; Belgium 19,604; Japan 15,937; U.S.S.R. 10,677; Italy 9,632.
Nonmetals:			
Asbestos	NA	4,243	Southern Rhodesia 2,924.
Cement	[r] 538,624	495,038	Iraq 129,065; U.S.S.R. 123,675; Japan 115,082.
Gypsum and lime	NA	6,629	Iran 4,020; Greece 1,014.
Marble	NA	7,535	Italy 6,457; Iran 453.
Salt	NA	1,133	Iran 733; United Kingdom 206; West Germany 135.
Mineral fuels:			
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	NA	3	Iran 2.
Lubricants do	12	69	United Kingdom 28; United States 24.
Asphalt do	NA	14	United States 8; Bahrain 3.

NA Not available.

[r] Revised.

Kuwait-Saudi Arabia Neutral Zone

Table 1.—Kuwait-Saudi Arabia Neutral Zone: Production of petroleum and petroleum products

(Thousand 42-gallon barrels)

	1962	1963	1964	1965	1966
Crude petroleum	89,224	114,535	131,416	132,285	153,419
Refinery products:					
Residual fuel oil	25,971	27,390	28,694	31,984	NA
Other refinery products	1,885	2,707	2,200	2,891	NA
Refinery fuel and loss	967	955	910	841	NA
Total refinery output	28,823	31,052	31,804	35,716	NA

Table 2.—Kuwait-Saudi Arabia Neutral Zone: Exports of petroleum and petroleum products

(Thousand 42-gallon barrels)

Commodity	1964	1965
Crude petroleum	108 792	108,707
Refinery products:		
Residual fuel oil	17,876	16,393
Other refinery products	797	629
Bunkers (residual fuel oil)	3,598	2,340

Laos

Table 1.—Laos: Production of mineral commodities

Year	Tin concentrate		Salt (metric tons)
	Gross weight (long tons)	Metal content (long tons)	
1962	709	367	NA
1963	650	326	NA
1964	686	[r] 336	3,000
1965	569	[r] 284	3,000
1966	668	[e] 340	4,200

[e] Estimate. [r] Revised.

Lebanon

Table 1.—Lebanon: Production of metals and minerals

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Iron and steel:					
Iron ore	2,000	---	---	---	---
Pig iron	---	600	---	---	---
Semimanufactures [e]	20,000	36,000	45,000	55,000	60,000
Nonmetals:					
Cement thousand tons	861	896	[r] 881	[r] 970	1,096
Gypsum	---	---	---	---	27,000
Lime	[e] 9,000	35,000	26,650	40,000	65,000
Salt [e]	[e] 16,000	19,000	20,000	24,000	25,000
Mineral fuels:					
Bitumen [e]	100	---	---	---	---
Petroleum:					
Refinery products:					
Gasoline thousand 42-gallon barrels	1,105	1,655	2,034	2,405	2,628
Kerosine do	807	888	961	1,008	1,194
Distillate fuel oil do	1,226	1,182	1,628	1,774	1,621
Residual fuel oil do	2,768	3,118	4,408	5,136	5,977
Other, including liquefied petroleum gas do	62	96	140	220	241
Refinery fuel and loss do	256	669	392	443	677
Total output, including refinery fuel and loss do	6,224	7,608	9,563	10,986	12,338

[e] Estimate.

Lesotho

Table 1.—Lesotho: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Diamond carats	NA	[1] 2,472	[1] 5,110	[1] 7,376	[1] 12,506

[1] Exports.

Liberia

Table 1.—Liberia: Production of mineral commodities

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Gold troy ounces	[2] 2,184	[2] 1,960	[2] 1,824	[2] 1,701	[2] 4,351
Iron ore thousand metric tons	3,719	7,520	12,999	15,959	16,859
Nonmetals:					
Diamond:					
Gem (exports) thousand carats	225	[3] 240	298	277	343
Industrial (exports) do	680	[3] 508	273	263	212
Total (exports) do	905	[3] 748	571	540	555

[1] In addition to commodities listed, construction materials also were produced, but output data are not available.
[2] Purchases by Bank of Monrovia; actual production data not available.
[3] Year ending August 31 of that stated.

Table 2.—Liberia: Foreign trade in mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations and sources, 1965
Exports:			
Metals:			
Iron ore and concentrate [1] thousand metric tons	12,232	15,668	West Germany 4,980; United States 3,171; Italy 1,842; United Kingdom 1,654.
Manganese ore	1,000	NA	
Nonferrous metals, scrap	225	NA	
Nonmetals:			
Diamond: [2]			
Bort and industrial carats	273,498	262,850	
Gem do	298,370	276,574	Belgium-Luxembourg [3] 185,126; Netherlands [3] 83,150.
Total do	571,868	539,424	
Imports:			
Metals:			
Iron and steel, metalliferous residues.	65	---	
Nonmetals:			
Abrasives, natural:			
Industrial diamond carats	2,923	---	
Undifferentiated do	2	---	
Asphalt, natural	2	3,840	United States 2,464; Netherlands 1,098.
Fertilizers, natural	344	5	Spain 3.
Salt	2,047	3,429	West Germany 2,189; Senegal 580.
Nonmetallic minerals, crude, n.e.s.	---	4	All from Netherlands.
Mineral fuels: Petroleum:			
Crude and partly refined 42-gallon barrels	447	114	France 55; United States 42.
Refinery products:			
Gasoline, motor and aviation do	640,268	557,184	United States 373,671; Italy 43,743.
Kerosine and jet fuel do	87,218	83,855	United States 42,121; United Kingdom 23,756.
Distillate fuel oil do	812,474	735,848	United States 479,094; Netherlands Antilles 116,658.
Residual fuel oil do	447,228	313,590	United States 240,443; Netherlands Antilles 21,544.
Lubricating oils do	7,539	NA	
Total do	1,994,727	1,690,477	
Greases	3,819	5,215	United States 3,171; United Kingdom 1,487.

NA Not available.
[1] Shipments and destinations recorded by mining companies.
[2] Shipments of trading companies in Liberia.
[3] Partial figure only.

Libya

Table 1.—Libya: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Nonmetals:					
Brick .... million bricks	[e] 11	[e] 10	[e] 10	[e] 10	NA
Gypsum	---	---	400	1,865	2,500
Lime	17,500	NA	NA	NA	NA
Natron	1,000	---	5	---	---
Salt .... thousand tons	15	19	[r] 12	[r] 12	(2)
Stone, crushed .... do	250	[e] 250	[e] 250	[e] 250	NA
Mineral fuels:					
Natural gas, associated [3] .... million cubic feet	---	---	[e] 231,200	303,433	[4] 361,247
Petroleum, crude .. thousand 42-gallon barrels	67,052	167,786	[r] 315,660	445,374	550,186

[e] Estimate.

[1] Statistics on gypsum and salt available only for mining operations conducted by the Ministry of Industry. Other quarry products such as building stone, clay, marble, mica, sand and sulfur have been mined sporadically for local use.

[2] Less than ½ unit.

[3] Flared or used as fuel in oilfield operations.

[4] Source: Arab Oil Review, Libyan Statistics, V. IV, No. 2, Feb. 14, 1967, p. 38.

Table 2.—Libya: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Exports:			
Metals:			
Iron ore, concentrates	---	40	All to Italy.
Iron and steel scrap	4,053	4,472	Italy 4,075; other European countries 340.
Nonferrous scrap	891	1,495	Italy 1,080; West Germany 220; United Kingdom 35.
Mineral fuels: petroleum, crude thousand 42-gallon barrels	314,309	442,629	West Germany 168,601; United Kingdom 88,294; Italy 44,459; Netherlands 34,353; Norway 15,870; United States 14,773; Belgium 11,696.
Reexports:			
Metals:			
Nonferrous scrap	---	53	West Europe 27; United Kingdom 26.
Cast iron tubes, pipes	1,069	697	Turkey 674; Tunisia 22.
Iron and steel tubes	371	---	
Iron and steel fittings	316	---	
Nonmetals:			
Cement	573	---	
Clay	---	40	All to Netherlands.
Mineral fuels:			
Kerosine ...... 42-gallon barrels	23,901	---	
Lubricating oil, greases	---	48	All to Tunisia.

Sources: For crude petroleum: Arab Oil Review, Libyan Statistics. V. IV, No. 2, Feb. 14, 1967, p. 37; for other commodities; Statistical Office, United Nations.

Table 3.—Libya: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum	677	1,100	Italy 580; West Germany 204; United Kingdom 62.
Copper	113	165	Italy 83; United Kingdom 31; West Germany 26.
Iron and steel:			
Ingots and other primary forms	897	2,398	United Kingdom 1,144; Belgium-Luxembourg 561; West Germany 395; Hungary 128; Netherlands 99.
Bars, rods, angles, shapes, sections	22,415	24,033	Italy 11,285; West Germany 4,606; Belgium-Luxembourg 3,722; U.S.S.R. 2,319; United Kingdom 1,369.
Plates and sheets	7,074	11,019	West Germany 3,862; Belgium-Luxembourg 3,183; Italy 1,607; Japan 805; United Kingdom 543.
Hoop and strip	474	238	Italy 96; West Germany 78; Belgium-Luxembourg 54.
Rails and railway construction material.	---	46	East Europe 40.
Wire (excluding wire rod)	5,840	18,956	Italy 12,334; West Germany 1,979; Belgium-Luxembourg 1,943; Czechoslovakia 1,245.
Tubes, pipes and fittings	108,774	82,633	Italy 21,311; West Germany 16,533; United Kingdom 12,439; Japan 11,058; United States 9,569.
Castings, unworked	56	---	
Lead	92	219	Netherlands 90; West Germany 85; Italy 27.
Nickel	1	---	
Silver, platinum, and other platinum-group metals troy ounces	71,889	164,515	West Germany 110,727; France 29,997; Italy 16,043; United Kingdom 7,748.
Tin long tons	10	21	United Kingdom 10; Netherlands 7.
Zinc	378	631	Italy 387; United Kingdom 133; Belgium-Luxembourg 83.
Nonmetals:			
Abrasives, natural	2,423	2,573	Italy 2,556.
Asbestos, crude and friction materials	21	NA	
Bricks, tiles, other ceramic materials for construction uses.	49,590	69,548	Italy 61,575; Czechoslovakia 1,463; Tunisia 1,351.
Cement thousand tons	329	473	Rumania 111; Greece 104; U.S.S.R. 93; Italy 53; West Germany 21.
Clays do	41	58	Greece 32; Italy 11; Ireland 4; United States 3.
Fertilizers:			
Crude	400	3,413	Italy 1,800; Yuguslavia 711; West Germany 551.
Manufactured	14,018	12,451	West Germany 4,978; Italy 4,440; Netherlands 2,930.
Gravel and crushed rock	5,711	9,179	Italy 8,161; Cyprus 539.
Gypsum and plaster	820	281	West Europe 219.
Lime	23,021	24,743	Italy 19,563; Yugoslavia 3,500; Poland 898.
Limestone for fluxing	658	---	
Limestone, other	820	431	West Europe 369.
Pigments, mineral	622	212	West Europe 195.
Refractory materials, including brick	202	---	
Salt	37	NA	
Stone, building and dimension:			
Unworked	7,929	7,803	Italy 6,357; Greece 1,345.
Worked	723	404	Italy 345; Greece 51.
Sulfur	19	NA	
Talc and steatite	34	NA	
Other	20	NA	
Mineral fuels:			
Asphalt, natural	5,810	2,621	West Germany 2,031; Italy 1,781; Hungary 488.
Coal and coal products	2,307	6,750	Poland 6,663; United States 40; West Germany 40.

See footnote at end of table.

Table 3.—Libya: Imports of metals and minerals—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	r 837	876	France 437; Italy 410; United States 28.
Kerosine and jet fuel do	r 296	325	France 168; Italy 155.
Distillate fuel oil do	r 1,087	1,040	Italy 667; France 333; United States 40.
Residual fuel oil do	164	222	Italy 204; France 15; United Kingdom 4.
Lubricants do	87	66	United States 25; United Kingdom 18; Italy 13.
Asphalts, wax, and bitumen do	104	137	Italy 53; United States 29; Greece 16; Venezuela 13.
Liquefied petroleum gas do	40	48	Italy 44.
Total do	2,615	2,714	

r Revised. NA Not available.

Luxembourg

Table 1.—Luxembourg: Production of mineral commodities

(Thousand metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Iron ore	6,507	6,990	6,680	6,315	6,528
Pig iron [1]	3,597	3,587	4,191	4,145	3,962
Crude steel	4,010	4,032	4,559	4,585	4,390
Semimanufactures	3,193	3,213	3,589	3,602	3,449
Nonmetals:					
Cement	230	203	[r] 205	222	212
Dolomite	NA	NA	254	225	168
Gypsum	8	7	7	5	6
Lime, hydraulic	3	2	2	1	1
Limestone	NA	NA	36	27	51
Molding sand	32	30	40	40	22
Quartzite — thousand cubic meters	NA	NA	24	27	36
Sand and gravel — do	633	543	542	647	467
Slate and flagstone [e]	5	5	5	5	5
Stone:					
Cut stone:					
Crude — thousand cubic meters	2	2	1	1	1
Flagstone — thousand square meters	2	2	3	4	NA
Building stone:					
Rough cut — thousand cubic meters	69	49	[r] 49	48	30
Facing — thousand square meters	12	7	5	9	NA
Crushed rock — thousand cubic meters	330	367	468	441	162
Paving blocks — thousand pieces	133	42	70	50	44
Fertilizers and raw materials:					
Basic slag	786	767	818	837	777
Manufactured phosphate fertilizers (P_2O_5 content) [3]	[r] 124	127	[r] 125	[e] 127	[e] 127
Mineral fuels:					
Coke, gas plant	36	36	28	13	[e] 10
Manufactured gas — thousand cubic meters	23,613	24,168	24,081	26,272	NA

[r] Revised. [e] Estimate. NA Not available.

[1] Official figures, includes some remelted pig iron.

[2] Less than 500 cubic meters.

[3] For fiscal years ending June 30 of year stated.

Table 2.—Luxembourg: Selected exports of mineral commodities

(Thousand metric tons)

Commodity	1964	1965
Metals:		
Iron ore	936	659
Steel:		
Ingots and primary forms	223	235
Semimanufactures	3,145	3,137
Nonmetals:		
Basic slag	873	877
Manufactured phosphatic fertilizers (P_2O_5 content)	136	NA

NA Not available.

Malagasy Republic

Table 1.—Malagasy Republic: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Beryl, industrial	674	411	212	20	[e] 20
Chromite	18,454	11,200	11,770	[r] 2,384	-----
Columbite and tantalite ... kilograms	9,400	17,200	3,600	4,000	[2] 450
Gold ... troy ounces	325	900	440	598	852
Manganese ore	-----	-----	-----	5	-----
Monazite	637	615	964	1,085	850
Nickel ore [3]	100	14,388	NA	NA	-----
Titanium concentrate (ilmenite)	3,184	3,653	[r] 4,800	[r] 6,311	6,188
Uranium ore and concentrate [3]	544	482	690	421	NA
Zircon concentrate, industrial	354	388	512	644	705
Nonmetals:					
Cement ... thousand tons	17	41	44	39	46
Feldspar	-----	41	1	41	-----
Garnet, industrial	100	2	65	69	12
Graphite	17,485	19,245	13,173	17,015	16,366
Mica, phlogopite:					
Block	82	97	93	91	64
Splittings	1,261	868	589	538	653
Quartz, crystal ... kilograms	13,300	28,700	28,300	88,100	99,799
Salt	[r e] 140	200	290	145	456
Stones, semiprecious ... kilograms	762	4,159	3,831	5,822	5,684
Mineral fuels:					
Coal, bituminous	-----	2,000	4,000	2,000	-----

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[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, a variety of minerals, mainly nonmetallic, are produced in very small quantities.

[2] U.S. imports.

[3] Exports.

Table 2.—Malagasy Republic: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Beryllium:			
Concentrate	239	63	All to United States.
Unwrought	418	---	
Chromite	7,003	7,800	All to France.
Columbite-tantalite	17	4	All to United States.
Copper	228	243	West Germany 191; France 41; Netherlands 6.
Gold troy ounces	---	64	West Germany 32; Reunion 32.
Iron and steel:			
Scrap	74	6,506	Japan 6,331; Italy 175.
Semimanufactures	174	271	Reunion 106; Comoro Islands 101; France 39.
Lead, mainly scrap	43	31	All to France.
Thorium and uranium minerals, mainly monazite.	1,434	1,564	All to France.
Tin long tons	NA	(1)	All to Comoro Islands.
Zinc	---	13	West Germany 10; Netherlands 2.
Nonmetals:			
Cement, hydraulic	NA	91	Reunion 80.
Fertilizer materials, all types	3	---	
Gem stones, precious and semiprecious kilograms	104,690	264,919	France 51,965; Hong Kong 15,972; mainland China 9,000.
Garnet, industrial	---	105	United Kingdom 100.
Graphite	14,055	17,994	United Kingdom 5,294; United States 5,115; France 3,029.
Lime	NA	2	All to Comoro Islands.
Mica, crude and worked	966	963	United States 284; West Germany 178; Belgium–Luxembourg 148.
Salt	1,633	2,085	Reunion 1,631; Comoro Islands 454.
Stone for construction use	12	4	All to Reunion.
Nonmetals, not elsewhere specified	6	9	France 3; Comoro Islands 3; West Germany 1.
Mineral fuels:			
Coal and briquets	3	---	
Gas, natural	NA	1	All to Comoro Islands.
Petroleum refinery products	[2] 7	24	Reunion 16; Ships stores 5; Comoro Islands 2.
Tar, pitch, and other crude chemicals from coal, oil and gas distillation.	1	6	Comoro Islands 3; France 3.

[1] Less than ½ unit.

[2] May not be complete; data lacking.

Table 3.—Malagasy Republic: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals: [1]			
Aluminum	438	533	France 455; Algeria 25; mainland China 25.
Copper	232	171	France 158; Belgium–Luxembourg 12.
Gold troy ounces	2,122	1,897	All from France.
Iron and steel:			
Scrap	---	770	Do.
Pig iron and ferroalloys	27	20	Do.
Ingots, blooms, billets, slabs, etc.	25	3	Do.
Semimanufactures:			
Bars and rods	7,904	5,622	France 4,650; Belgium-Luxembourg 647; Italy 175.
Structural shapes	7,377	5,417	France 5,080; Belgium-Luxembourg 285.
Hoop and strip	513	481	France 470; Belgium-Luxembourg 11.
Plates and sheets	13,906	11,282	France 9,559; Belgium-Luzembourg 1,050.
Tubes, pipes and fittings	3,308	3,767	France 3,391; Belgium-Luxembourg 275.
Rails and accessories	681	2,030	All from France.
Wire	382	433	France 340; Belgium-Luxembourg 92.
Total	34,071	29,032	
Special steels, all forms	158	(2)	

See footnotes at end of table.

Table 3.—Malagasy Republic: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Lead	154	170	All from France.
Platinum troy ounces	96	514	Do.
Silver do	11,446	9,066	France 8,230; United States 836.
Tin long tons	14	6	All from France.
Zinc	77	49	France 26; Belgium-Luxembourg 22.
Metals not elsewhere specified:			
Unwrought and semimanufactures	3	5	Mainland China 4; France 1.
Oxides and bases, metallic, mainly for paint.	121	178	France 147; West Germany 21.
Residues, precious metals kilograms	---	136	All from France.
Nonmetals:			
Abrasive materials:			
Natural	15	19	All from France.
Grinding stones, millstones	19	28	France 25; West Germany 2.
Cement	70,803	79,628	France 47,850; Kenya 11,589; Belgium-Luxembourg 7,198.
Chalk	106	380	All from France.
Clays	46	74	France 73; West Germany 1.
Clay construction materials	1,258	11,556	France 701; West Germany 343.
Diamond, other precious and semi-precious stones kilograms	55	1,377	All from France.
Fertilizer materials:			
Crude, phosphatic	140	771	Tunisia 443; France 328.
Other, natural	NA	2,189	Netherlands 1,082; France 797; West Germany 255.
Manufactured:			
Nitrogenous	2,521	1,805	France 1,660; West Germany 134.
Phosphatic	623	1,034	Tunisia 584; France 425.
Potassic	745	181	Tunisia 102; France 79.
Mixed	1,184	1,621	France 694; Italy 486; Tunisia 439.
Ammonia	21	21	France 19; West Germany 1.
Gypsum and anhydrite	1,247	2,154	All from France
Lime	2,729	2,540	Do.
Magnesite	5	4	Do.
Mica, crude and worked kilograms	2,001	2,100	Do.
Pigments, mineral	149	75	Do.
Salt	636	904	West Germany 758; France 146.
Sodium and potassium compounds, mainly caustic soda.	299	203	All from France.
Stone for construction use	61	10	All from Italy.
Sulfur in all forms:			
Crude	25	15	All from France.
Precipitated	4	6	Do.
Sulfuric acid	59	94	France 61; West Germany 29.
Talc kilograms	7,893	27,898	All from France.
Nonmetals, not elsewhere specified	1,699	445	Comoro Islands 440; France 5.
Mineral fuels:			
Coal and briquets	13,323	14,869	Republic of South Africa 12,648; Southern Rhodesia 2,221.
Coke and semicoke	90	72	All from France.
Petroleum refinery products:			
Gasoline	67,814	68,520	Iran 30,251; Pakistan 17,134; Bahrain 13,717.
Kerosine	20,561	20,676	Iran 15,785; Bahrain 2,765; Federation of Malaysia 2,036.
Distillate fuel oil	51,360	73,468	Iran 58,862; Bahrain 7,667; Federation of Malaysia 5,765.
Residual fuel oil	1,559	2,926	Kenya 925; Republic of South Africa 852; Aden 767.
Lubricants	6,474	5,987	France 4,016; United States 1,322; Kenya 364.
Liquefied petroleum gas	1,734	1,799	Kenya 1,548; Aden 166; Italy 34.
Asphalt, bitumen and petroleum coke.	6,630	6,498	Republic of South Africa 3,071; Iran 2,456; Kenya 924.
Wax and jelly	1,483	1,795	United States 1,274; Indonesia 488; France 23.
Total	157,615	181,669	
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	70	192	France 178; Republic of South Africa 14.

NA Not available.

[1] Scrap, unwrought, and semimanufactures, including alloys, unless otherwise specified.

[2] Included with semimanufactures.

Malaysia, Singapore, and Brunei

Table 1.—Malaysia, Singapore, and Brunei: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 p
Metals:					
Antimony metal concent of ore (Sarawak)	---	6	r 78	55	NA
Bauxite:					
Malaya thousand tons	355	451	r 471	857	956
Sarawak do.	229	r 158	r 161	r 137	e 140
Total do.	584	r 609	r 632	r 994	1,096
Columbite-tantalite concentrate, columbium-tantalum ratio 4:1, 70 to 80 percent pentoxides	112	89	57	r 47	69
Copper, flotation concentrate e	2,000	2,000	1,085	1,750	760
Gold:					
Malaya (crude) troy ounces	r 6,924	9,116	r 7,296	3,982	2,959
Sarawak (fine) do.	2,885	2,773	3,115	2,602	2,611
Iron ore, 60 to 64 percent iron thousand tons	6,612	7,381	6,569	6,983	5,855
Manganese ore, 30 to 40 percent manganese	309	6,982	---	r 1,591	19,674
Tin:					
Mine (contained in 75 to 76 percent concentrate) long tons	58,603	59,947	60,004	63,670	68,886
Smelter [2] do.	82,073	84,001	71,351	72,469	71,049
Titanium concentrate (ilmenite; exports)	103,289	r 149,374	r 131,337	r 123,517	118,264
Tungsten ore and concentrate (wolframite and scheelite) 60 percent WO_3 basis	r 11	r 7	r 5	r 10	7
Zirconum concentrate (zircon; exports)	r 61	r 262	r 147	r 571	774
Nonmetals:					
Cement:					
Malaya thousand tons	326	362	r 466	r 739	e 850
Singapore [3] do.	122	194	e 200	203	388
China clay do.	4	1	1	2	2
Lime (Sarawak)	120	166	226	190	132
Monazite (exports)	637	899	308	705	880
Xenotime (yttrium mineral; exports)	5	5	e 10	e 10	155
Mineral fuels:					
Gas, natural (Brunei) million cubic feet	2,990	7,390	6,460	7,870	NA
Petroleum:					
Crude:					
Brunei thousand 42-gallon barrels	27,868	29,266	25,913	28,991	35,386
Sarawak do.	418	373	352	351	
Natural gasoline (Brunei) do.	645	676	e 600	546	e 550
Refinery products:					
Sarawak [4] do.	e 17,500	e 17,500	e 18,500	19,656	e 20,000
Malaya-Singapore do.	39,931	44,544	e 50,000	e 55,000	e 60,000

e Estimate. r Revised. NA Not available. p Preliminary.

[1] Production from Malaysia unless otherwise shown.

[2] Includes metal smelted from imported tin concentrates.

[3] Includes cement ground from imported clinker.

[4] Processed at Lutong refinery; mostly from crude supplied by pipeline from Brunei.

Mali

Table 1.—Mali: Exports of selected mineral commodities

(Metric tons)

Commodity	1964	1965 [1]	Principal destinations, 1965
Metals:			
Iron and steel:			
Scrap	---	28	France 18; Ivory Coast 10.
Semimanufactures	---	110	Upper Volta 90; Niger 20.
Nonmetals:			
Cement, lime, and other building materials.	---	61	All to Mauritania.
Nonmetallic minerals, crude not elsewhere specified.	270	1,110	Upper Volta 854; Niger 235; Ivory Coast 20.
Mineral fuels:			
Petroleum refinery products	5,543	1,731	Venezuela 987; British Guiana 723; United States 8.

[1] Source: Statistical Office of the European Communities, No. 1, 1966, pp. 101–122; No. 9, 1966, pp. 21–40.

Table 2.—Mali: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964 [1]	1965 [1]	Principal sources, 1965
Metals: [2]			
Aluminum	37	49	France 26; Ghana 16; United Kingdom 4.
Copper	19	11	All from France.
Iron and steel:			
Scrap	23	29	France 28.
Pig iron and ferroalloys	3	---	
Semimanufactures	7,378	7,579	France 3,739; U.S.S.R. 2,287; Japan 550.
Lead	23	4	All from France.
Tin long tons	8	1	Do.
Zinc	---	15	All from U.S.S.R.
Nonmetals:			
Abrasives, natural	---	---	
Cement, lime, and other building materials.	15,624	34,823	Poland 14,951; France 8,744; U.A.R. (Egypt) 5,956.
Clay construction materials	401	504	Poland 235; West Germany 159; France 94.
Fertilizers, manufactured	10	---	
Stone, sand, and gravel	2	74	All from U.A.R. (Egypt).
Sulfur and pyrite	6	---	
Nonmetallic minerals, crude unspecified.	18,076	15,279	Algeria 9,576; Poland 5,346; Mauritania 137.
Nonmetallic mineral manufactures	16	27	France 16; U.S.S.R. 11.
Mineral fuels:			
Coal, coke, and briquets	---	98	U.S.S.R. 89; France 10.
Gas, natural and manufactured	212	360	France 268; U.S.S.R. 93.
Petroleum:			
Crude and partly refined	---	1	All from France.
Refinery products	70,357	72,380	France 35,229; Venezuela 18,436; Iraq 9,340.

[1] Source: Statistical Office of the European Communities, No. 1, 1966, pp. 101–122; No. 9, 1966, pp. 21–40.
[2] Includes unwrought and semimanufactures unless otherwise specified.

Mauritania

Table 1.—Mauritania: Production of mineral commodities

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Iron ore thousand metric tons	1,000	1,678	5,080	6,284	7,157
Nonmetals:					
Salt [e] metric tons	500	600	600	600	NA

[e] Estimate.

[1] In addition construction materials such as gypsum, clay, sand, and gravel are produced, but quantitative data are not available.

Mexico

Table 1.—Mexico: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Ingots	---	5,500	17,678	19,088	20,902
Alloys	---	526	1,232	1,783	NA
Semifinished and finished products	---	13,297	14,179	15,650	NA
Antimony:					
In untreated ore and concentrate	3,924	3,899	3,805	3,476	3,145
In smelter products	842	927	983	985	1,271
Total	4,766	4,826	4,788	4,461	4,416
Arsenic trioxide (As_2O_3)	14,834	[r] 13,305	[r] 14,860	13,778	[e] 16,300
Arsenic content (as reported)	10,900	9,486	11,169	10,127	10,103
Bismuth...kilograms	354,000	427,000	472,000	484,000	470,000
Cadmium:					
In zinc concentrates for export [e]	2,405	2,149	2,250	2,028	1,864
In flue dust	659	681	659	681	NA
Refined metal	62	163	158	69	110
Copper:					
In ores mined	[r] 47,124	55,861	52,506	69,162	74,395
Smelted and refined	45,510	[r] 54,337	50,857	67,517	55,238
Gold...troy ounces	236,758	237,948	209,976	215,796	190,815
Iron ore, 60 percent Fe equivalent	1,818,850	2,328,137	2,320,778	2,654,560	2,307,030
Iron content (as reported)	1,091,310	1,396,882	1,392,467	1,592,737	1,384,218
Iron and steel:					
Pig iron	801,224	833,118	926,263	945,947	1,136,568
Sponge iron	165,735	169,735	202,551	212,668	265,575
Ferroalloys	25,739	25,917	42,568	43,436	44,657
Steel ingots	1,710,662	2,026,033	2,326,496	2,454,680	2,787,478
Steel castings	9,382	11,684	25,754	33,772	13,096
Semifinished and finished steel	1,281,813	1,634,187	1,885,480	2,032,246	2,327,637
Lead:					
In ore and concentrate for export	3,110	2,804	3,254	2,473	2,100
In smelter and refinery products	189,100	186,170	166,703	164,307	172,145
Manganese, content of ore	75,111	77,786	85,953	[r] 83,574	51,624
Mercury...76-pound flasks	18,855	16,302	12,549	19,190	[e] 17,000
Molybdenum ores:					
Molybdenum sulfide (MoS_2) content...kilograms	97,218	68,755	89,164	80,926	NA
Molybdenum (Mo) content...do	58,331	41,253	53,498	48,556	[e] 105
Selenium...do	[r] 1,115	[r] 2,478	4,239	3,683	11,000
Silver...thousand troy ounces	41,249	42,760	41,716	40,332	41,984
Strontium ore (U.S. imports from Mexico)	4,131	5,875	4,788	2,925	5,837
Tin:					
In ores mined...long tons	576	1,055	1,207	503	821
Refined...do	520	1,055	1,145	459	795
Titanium, ilmenite	---	141	---	---	---
Tungsten ore, 60 percent WO_3 basis	80	33	8	183	143
Vanadium	---	---	---	1	NA
Zinc:					
In ore and concentrate for export	169,452	151,454	158,558	143,131	132,272
In smelter and refinery products [1]	81,764	81,642	86,375	89,744	100,641
Nonmetals:					
Barite	318,136	[r] 256,597	334,044	368,342	291,484
Calcite, optical...kilograms	[2] 216	[2] 3,407	NA	29	NA
Cement:					
Gray	3,284,569	3,596,291	4,241,941	4,207,075	4,828,348
White	67,540	77,463	89,845	111,567	NA
Other	---	88,318	86,323	3,497	NA
Total	3,352,109	3,762,072	4,418,109	4,322,139	[e] 4,968,000
Clays:					
Kaolin	NA	46,561	64,225	81,135	96,591
Bentonite	NA	4,245	NA	16,962	25,607

See footnotes at end of table.

Table 1.—Mexico: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Dolomite	NA	NA	NA	NA	305,680
Fertilizers:					
Nitrogenous	381,219	434,178	469,320	198,511	NA
Phosphatic	133,262	161,332	164,055	165,530	NA
Mixed	83,443	153,949	176,948	NA	NA
Other	---	41,451	86,515	NA	NA
Fluorspar	502,256	481,619	642,872	735,381	725,388
Graphite, amorphous	29,023	29,996	30,337	40,413	[e] 43,100
Gypsum	794,554	1,097,339	1,165,054	1,081,745	1,151,071
Limestone:					
For cement (estimate) thousand tons	4,360	4,780	5,640	5,595	NA
Other do	NA	NA	240	NA	NA
Total (estimate) do	NA	NA	5,880	NA	NA
Marble	NA	NA	56,782	6,706	NA
Mica	---	---	---	---	396
Perlite	NA	NA	NA	9,620	10,095
Phosphate rock	[e] 30,000	[e] 30,000	27,895	[e] 28,000	[e] 28,000
Salt thousand tons	1,292	1,225	1,783	2,200	2,398
Sand, silica	[e] 145,000	154,978	NA	192,986	205,864
Sulfur:					
Frasch processed	1,372,039	1,480,026	1,662,016	1,505,015	1,637,299
Mined	27,180	29,433	26,406	34,342	29,792
Recovered from natural gas	47,292	44,003	36,866	46,722	38,772
Total	1,446,511	1,553,462	1,725,288	1,586,069	1,705,863
Talc	[e] 4,000	[e] 4,000	[e] 4,000	[e] 4,000	[e] 4,000
Mineral fuels:					
Bituminous coal thousand tons	1,893	2,071	2,127	2,006	2,101
Coal products:					
Coke do	780	765	786	824	1,131
Coke breeze (finos de coque)	---	21,265	21,138	20,874	18,994
Coal tar	---	11,628	12,238	10,708	NA
Creosote	9,981	10,747	11,877	9,746	NA
Ammonium sulfate	9,325	8,855	10,633	9,668	NA
Benzol	4,104	5,190	5,710	5,174	NA
Naphthaline	---	273	568	1,757	NA
Synthetic carbon brushes and rings	---	12	16	22	NA
Coal gas [3] million cubic feet	---	2,971	3,489	5,332	NA
Natural gas [r] [3] do	371,361	401,572	485,057	493,161	529,128
Sales [3] do	180,670	205,944	234,636	244,594	254,840
Petrochemicals:					
Light alkaloids	6,045	5,056	6,591	10,203	NA
Heavy alkaloids	6,845	3,844	4,645	5,820	NA
Dodecylbenzene	27,213	20,584	26,082	36,452	NA
Ammonia	57,315	103,393	124,292	121,111	NA
Ammonium sulfate	260	217	363	116	NA
Carbon dioxide	65,562	125,789	148,818	147,482	NA
Petroleum:					
Crude (includes distillates and natural gas liquids) thousand 42-gallon barrels	121,559	125,825	129,504	132,141	135,021
Refinery products:					
Gasoline:					
Aviation do	640	648	695	791	663
Other (including naphthas) do	32,487	33,860	36,002	37,674	36,646
Total do	33,127	34,508	36,697	38,465	37,309
Jet fuel do	609	786	955	1,070	1,605
Kerosine do	11,680	11,706	12,188	11,906	11,665
Distillate fuel oil do	15,658	16,995	20,682	21,020	21,771
Residual fuel oil do	45,185	42,511	39,953	41,880	40,320
Lubricants, including greases do	1,141	1,220	1,270	1,409	NA
Asphalts do	2,061	2,004	2,321	3,173	6,035
Liquefied petroleum gas do	4,652	5,793	6,734	8,452	8,569
Other do	1,891	2,261	2,252	2,519	4,547
Total refinery products do	116,004	117,784	123,052	129,894	NA

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[e] Estimate. [r] Revised. NA Not available.

[1] Includes refined bars, concentrated slag, zinc oxide, zinc sulfate, zinc residues and calcined zinc.

[2] Exports.

[3] Converted at 35.315 cubic feet per cubic meter.

Table 2.—Mexico: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Alumina	5	(1)	
Ingots	3,108	429	Mainly to Argentina.
Semimanufactures	329	6	Mainly to United States.
Antimony, content of:			
Ore	13,687	11,349	Do.
Mixed bars	258	234	Do.
Refined bars	37	46	All to United States.
Arsenic oxide:			
Black arsenic	88	826	Do.
White arsenic	11,200	9,209	Mainly to United States.
Total	11,288	10,035	
Bismuth:			
Mixed bars	400	415	All to United States.
Refined bars	173	147	Mainly to United States.
Cadmium:			
Flue dust	850	944	All to United States.
Refined metal	118	26	Brazil 16; United States 10.
Copper:			
Ore	5,905	5,753	All to United States.
Concentrate, precipitate, matte, speiss, etc.	1,388	989	Do.
Sulfate	575	997	United States 479; Brazil 394.
Metal:			
Mixed bars	15,938	7,947	Mainly to United States.
Anodes and electrolytic copper.	630	837	Do.
Semimanufactures, including alloys.	1,636	3,592	Do.
Gold troy ounces	22,086	5,919	Mainly to United States.
Iron and steel:			
Iron ore	21,487	9,914	All to United States.
Scrap	1,079	372	Do.
Pig iron	---	(1)	
Steel:			
Ingots and other primary forms.	13	4	Do.
Semimanufactures:			
Bars	95	259	El Salvador 206; Argentina 20.
Plates, sheets and strip	75,159	90,528	United States 89,956.
Tinplate	28	50	United States 32; Venezuela 17.
Girders, beams, structural shapes.	627	871	United States 451; Guatemala 420.
Wire and cable	377	802	Colombia 510; Chile 194.
Pipes, tubes, and fittings	31,349	44,083	United States 24,949; Chile 9,311.
Lead:			
Ore, concentrate, matte, and speiss.	3,176	2,818	All to United States.
Oxides:			
Litharge	28,930	31,011	United States 21,647; Italy 2,778.
Red lead	3,717	2,352	Netherlands 535; United States 465.
Metal:			
Impure and mixed bars	11,159	10,366	United States 6,746; Netherlands 2,896.
Antimonial bars	368	74	All to United States.
Refined bars	93,419	96,727	United States 92,071.
Manganese ore and concentrate	120,215	88,260	Mainly to United States.
Mercury 76-pound flasks	13,392	19,326	United States 16,270; United Kingdom 884.
Molybdenum concentrate	106	108	Mainly to United States.
Silver thousand troy ounces	32,389	29,522	West Germany 14,801; United States 11,897.
Titanium oxide	46	---	
Tungsten concentrate	14	204	All to United States.
Zinc:			
Ore, concentrate, slag, and other intermediate products.	320,768	285,003	Mainly to United States.
Oxide, white	3,253	6,531	Do.
Sulfate	468	1,449	All to United States.
Metal:			
Impure bars	49	---	
Refined bars	29,122	25,861	United States 12,550; Brazil 4,654.
Other metals and metallic residues	840	685	United States 538; Belgium 145.

See footnotes at end of table.

Table 2.—Mexico: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals:			
Abrasives, except diamond, not elsewhere specified:			
Emery kilograms	341	571	All to Guatemala.
Pumice	7,164	7,180	All to United States.
Asbestos	---	106	Brazil 103.
Barite	177,055	220	All to United States.
Calcite, optical and industrial kilograms	1,309	---	
Cement, portland	3,549	1,939	Mainly to United States.
Clays and earths:			
Bentonite	701	405	Do.
Other clays including refractory	137	300	Do.
Earths, all kinds	15	73	Do.
Diamond, industrial carats	60,000	15,000	All to United States.
Diatomite, infusorial earth, tripoli, and chalk.	164	5,694	Mainly to United States.
Feldspar	---	57	All to United Kingdom.
Fluorspar:			
Acid grade	166,429	219,700	Mainly to United States.
Metallurgical grade	462,261	461,438	United States 357,467; Canada 103,850.
Graphite, natural amorphous	31,694	37,463	Mainly to United States.
Gypsum:			
Crude	1,136,868	1,075,865	Do.
Calcined	13	81	Colombia 59; Union of South Africa 20.
Lime	1,042	45	Mainly to United States.
Limestone and dolomite	1,789	950	Do.
Perlite	344	488	Colombia 256; Chile 154.
Phosphate rock	27,895	31,319	Mainly to United States.
Quartz	1,621	1,747	Do.
Salt thousand tons	1,451	1,601	Japan 956; United States 477.
Sodium sulfate, Blödite, and thenardite	78	---	
Stones, semiprecious, uncut, agate, jasper, opal, and obsidian kilograms	359,933	19	Mainly to United States.
Stone, sand, and gravel, building and industrial:			
Alabaster and marble	7,633	5,711	Do.
Granite	[1]	20	All to United States.
Other stone, type not specified	48,557	43,425	Mainly to United States.
Sand and gravel	5,692	8,377	Do.
Strontium minerals, celestite	4,892	3,125	Do.
Sulfur thousand tons	1,841	1,540	Bahama Islands 598; United States 417.
Talc and steatite	6	41	Mainly to Colombia.
Mineral fuels:			
Asphalt	---	121	United Kingdom 106.
Coal, powdered	1	2	All to Guatemala.
Natural gas million cubic feet	59,518	54,327	All to United States.
Natural gas liquids kilograms	365	371	United States 224; Ecuador 105.
Petroleum:			
Crude thousand 42-gallon barrels	7,802	7,266	Mainly to United States.
Refinery products:			
Gasoline do	41	8	Mainly to Guatemala.
Distillate fuel oil do	96	271	Mainly to United States.
Residual fuel oil do	9,620	10,170	Do.
Lubricants, including greases	432	260	United States 84; Japan 20; Costa Rica 10.
Paraffin and wax	1,822	2,829	Mainly to United States.

[1] Less than ½ unit.

Source: Anuario Estadístico del Comercio Exterior de los Estados Unidos Mexicano, Dirección General de Estadística, Mexico, D.F., 1965–1966, pp. 739.

Table 3.—Mexico: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	5,118	14,987	Mainly from United States.
Aluminum oxide	35,813	45,982	Do.
Metal, all forms	7,114	4,479	Do.
Antimony, all forms	26	---	
Cobalt, oxide	15	8	Do.
Copper and alloys, all forms	503	795	Do.
Chromite	16,893	27,543	All from United States.
Gold:			
Wire troy ounces	6	4	Do.
Sheets do	1,963	1,370	Mainly from West Germany.
Powder do	27,979	13,628	Mainly from United States.
Iron and steel:			
Iron ore	15	18,527	Mainly from Canada.
Pig iron, sponge, powder	555	1,507	Mainly from United States.
Scrap	734,631	751,904	Do.
Ferroalloys	2,713	1,535	United States 1,107; Luxembourg 211.
Ingots and equivalent forms	1	5	All from United States.
Semimanufactures:			
Railroad rails and accessories	105,798	---	
Other	42,300	33,739	Mainly from United States.
Lead, all forms	359	27	Do.
Magnesium	483	525	Do.
Mercury 76-pound flasks	26	30	Do.
Nickel:			
Ingots and castings	274	208	Canada 119; United States 88.
Semimanufactures	345	344	Mainly from United States.
Palladium troy ounces	4,978	3,261	Do.
Platinum do	199	1,174	Do.
Rutile	184	795	Mainly from Australia.
Silver:			
Wire troy ounces	1,341	6,311	Mainly from United States.
Bars and shapes do	386	1,398	Mainly from Belgium.
Other do	2,006	552	All from United States.
Tin:			
Tin ore long tons	169	761	Bermuda 371; United States 356.
Ingots do	347	539	Mainly from United States.
Semimanufactures do	317	24	Do.
Tungsten, all forms	3	7	Mainly from United Kingdom.
Uranium, thorium, plutonium and other substances.	8	11	Mainly from United States.
Zinc, all forms	48	60	Do.
Zircon	694	1,854	Mainly from Australia.
Other:[1]			
Ores and concentrates	---	15	Mainly from United States.
Metals and alloys	1,640	28	United States 16; Belgium 11.
Scrap of nonferrous metals[2]	30	10	All from United States.
Nonmetals:			
Abrasives:			
Carborundum and emery in powder and grains.	1,652	433	United States 263; Netherlands 51.
Asbestos, crude	24,095	21,480	Mainly from Canada.
Barite	449	644	Netherlands 286; United States 212.
Cement	1,441	8,887	Mainly from United States.
Clays:			
Fuller's earth	3,916	3,369	Do.
Kaolin	9,340	9,096	Do.
Nonrefractory	4,594	4,129	Do.
Refractory	79,238	86,327	Do.
Cryolite, natural or artificial	445	272	Do.
Diamond, industrial:			
Stones carats	131,225	NA	
Powder do	28,885	1,400,000	Mainly from United States.
Diatomite	1,126	274	Do.
Dolomite	45	70	Do.
Feldspar	1,435	1,058	Do.
Fertilizer and fertilizer raw materials:			
Nitrogenous:			
Sodium nitrate	---	13,192	Mainly from Chile.
Ammonium nitrate	19,135	49,742	Mainly from United States.
Phosphatic:			
Phosphate rock	203,662	228,190	All from United States.
Superphosphates	756	---	
Potassic: Potassium chloride	27,387	31,474	Mainly from United States.

See footnotes at end of table.

Table 3.—Mexico: Imports of mineral commodities—Continued
(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Graphite	67	270	Mainly from United States.
Gypsum, calcined	229	3,554	Do.
Limestone	1,737	NA	
Magnesite, calcined	32,430	35,589	Do.
Marble, crushed, crude and cut	3,000	41	Mainly from Italy.
Mica:			
Crude and powder	134	128	Mainly from United States.
Scrap	35	36	Do.
Salt	1,052	4,822	Do.
Sand and gravel	18,661	136,648	Do.
Semiprecious stones, uncut ... carats	15,195	284,560	Mainly from United States.
Stone:			
Building and ornamental	129	2,808	Mainly from Italy.
Sulfur, ground and unground	346	403	Mainly from United States.
Talc and pyrophyllite:			
Talc:			
Crude	39,618	34,150	Do.
Powdered	376	613	Do.
Pyrophyllite	89	150	All from United States.
Vermiculite	616	564	Do.
Other nonmetallic minerals	1,081	1,247	Mainly from United States.
Mineral fuels:			
Coal	49,674	56,303	Do.
Coke	27,604	56,250	All from United States.
Natural gas ... million cubic feet	9,300	8,252	Do.
Natural gas liquids thousand 42-gallon barrels	2,703	5,650	Mainly from United States.
Petroleum:			
Crude	576	1,057	All from United States.
Refinery products:			
Aviation gasoline ... do	33	107	Mainly from United States.
Motor gasoline ... do	84	287	All from United States.
Kerosine ... do	1	[3] 272	Mainly from United States.
Distillate fuel oil ... do	199	166	All from United States.
Residual fuel oil ... do	1,422	1,669	NA.
Lubricants including greases	10,539	190	Mainly from United States.
Asphalt	769	358	All from United States.
Paraffin and vaseline	21,956	23,749	Mainly from United States.

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[1] Molybdenum and various alloys.
[2] Copper, brass and tin.
[3] Includes jet fuel.

Sources: Secretaria de Industria y Comercio, Dirección General de Estadística. Anuario Estadística del Comercio Exterior de los Estados Unidos Mexicanos, 1965, 1966. pp. 739.

Mongolia

Table 1.—Mongolia: Production of minerals [1]

(Metric tons)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Alabaster (gypsum)	10,000	15,000	20,000	20,000	20,000
Fluorspar (fluorite)	37,900	[r] 48,800	57,000	75,000	75,000
Lime	21,000	25,000	30,000	35,000	35,000
Salt	8,000	8,000	8,000	8,000	8,000
Mineral fuels:					
Coal [2]	860,000	845,000	710,000	989,500	1,000,000
Petroleum:					
Crude oil	50,000	50,000	50,000	15,900	20,000
Refinery products:					
Gasoline	17,900	18,200	18,000	17,000	18,000
Diesel oil	7,100	7,680	8,200	6,600	7,000
Residual fuel oil	30,000	32,000	32,000	30,000	30,000

[1] All figures are estimated, except fluorspar for 1962, lime for 1962, coal for 1962–63, and coal, crude oil, gasoline, and diesel fuel for 1965. Other metals and nonmetals known to be produced include gold, lead, zinc, tungsten, clays, dolomite, limestone, phosphate, and sand, but quantitative information is not available.

[2] Mainly so-called brown coal.

Morocco

Table 1.—Morocco: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Antimony concentrate:					
Gross weight	866	1,742	3,282	[r] 4,586	2,685
Metal content	407	675	1,560	2,200	1,343
Cobalt concentrate:					
Gross weight	14,364	13,707	15,253	16,654	18,130
Metal content	1,436	1,371	1,678	1,832	1,994
Copper concentrate:					
Gross weight	7,696	6,119	6,504	6,278	8,940
Metal content	2,497	1,806	1,748	[r] 1,813	2,682
Iron ore thousand tons	1,149	1,035	888	951	1,017
Lead:					
Concentrate:					
Gross weight	131,284	106,073	103,944	113,259	119,380
Metal content	90,104	73,972	71,290	77,111	77,597
Smelter	24,143	18,760	18,839	17,232	18,775
Manganese ore:					
Metallurgical	368,758	266,051	266,400	321,429	284,660
Chemical	100,599	68,897	74,678	54,452	77,760
Nickel, content of cobalt ore [e]	287	274	[r] 336	[r] 360	390
Silver thousand troy ounces	826	773	604	599	707
Tin:					
Metal content of ore long tons	11	9	14	[r] 12	7
Smelter [e] do	10	10	10	12	12
Zinc concentrate:					
Gross weight	58,354	58,618	80,974	95,015	94,249
Metal content	34,420	33,038	42,346	51,218	53,722
Metallic oxides, mainly for pigment	1,237	869	864	910	544
Nonmetals:					
Barite	89,793	94,554	89,844	103,880	106,255
Cement thousand tons	698	759	927	790	857
Clays:					
Smectite and bentonite	32,639	37,637	32,289	51,760	40,950
Other, including Fuller's Earth	2,898	2,959	4,305	6,789	2,480
Fertilizer materials:					
Phosphate rock thousand tons	8,162	8,548	10,098	9,824	9,439
Fluorspar	495	6,350	6,570	3,000	[e] 3,000
Gypsum [e] thousand tons	[r] 45	[r] 40	[r] 50	[r] 70	80
Pyrite, including cupriferous	20,745	23,142	21,220	18,318	14,896
Pyrrhotite	-----	-----	-----	128,014	282,311
Salt [2] thousand tons	28	37	61	[r] 34	39
Mineral fuels:					
Coal, anthracite do	370	404	400	419	451
Fuel briquets do	23	18	18	18	[e] 20
Natural gas, marketed million cubic feet	369	436	443	425	411
Petroleum:					
Crude thousand 42-gallon barrels	968	1,140	910	782	783
Refinery products:					
Gasoline do	1,821	2,189	1,442	2,072	2,074
Kerosine do	541	602	490	504	518
Distillate fuel oil do	2,246	2,457	2,187	2,532	3,264
Residual fuel oil do	1,511	1,933	2,345	2,438	3,024
Other, mainly liquefied petroleum gas thousand 42-gallon barrels	233	457	[e] 712	352	379
Total do	[3] 6,557	7,638	[e] 7,176	7,898	9,259

[e] Estimate. [r] Revised.

[1] In addition to commodities listed, Morocco also produced small quantities of copper matte from lead smelting, phosphatic fertilizer, and various quarry products, but production data are not available.

[2] Partial figure.

[3] Includes refinery fuel and losses, which are not listed separately in detail.

Table 2.—Morocco: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels:			
Coal, anthracite and briquets thousand tons	138	100	France 46; Italy 18; Spain 11.
Petroleum refinery products: [2]			
Gasoline thousand 42-gallon barrels	7	2	Bunkers 2.
Kerosine do	112	4	France 3.
Distillate do	NA	299	West Germany 288.
Residual do	NA	1	All to Bunkers.
Total do	119	306	

NA Not available.

[1] Includes scrap, ingots, and semimanufactures.

[2] Excludes exports and re-exports of fuel oils from Ceuta and Melila (Spanish enclaves), mainly from bunkers.

Table 3.—Morocco: Imports of metals and minerals

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	921	2,502	All from France.
Metal and alloys, all forms [2]	1,931	1,635	France 1,241; United States 245; Belgium-Luxembourg 42.
Antimony, unwrought	10	12	Mainland China 10; U.S.S.R. 2.
Copper and alloys, all forms [2]	2,615	2,123	France 1,589; Italy 226; Yugoslavia 128.
Gold, all forms, including plate [2] thousand troy ounces	NA	NA	
Iron and steel:			
Scrap	89	77	United States 62; France 12.
Pig iron and ferroalloys [3]	1,343	1,237	West Germany 796; France 385.
Blooms and slabs	966	1,349	France 1,106; West Germany 224.
Bars and rods	74,928	40,932	France 21,274; West Germany 6,928; Czechoslovakia 6,377; U.S.S.R. 3,468.
Angles, shapes and sections	22,723	19,554	France 14,704; West Germany 3,796.
Sheet and strip	59,948	44,682	France 37,136.
Tubes, pipes and fittings	11,049	10,714	France 8,980; West Germany 447; Czechoslovakia 322.
Wire	8,143	17,312	France 11,897; West Germany 2,098.
Rails and accessories	6,752	3,572	France 3,483.
Other	75	---	
Total	186,016	139,429	
Lead ore	NA	121,378	All from Algeria.
Lead and alloys, all forms [2]	79	51	France 40.
Manganese ore	110	114	West Germany 65; Ghana 49.
Mercury 76-pound flasks	8	7	France 6.8.
Molybdenum, unwrought	---	---	
Nickel and alloys, all forms [2]	295	292	France 128; Italy 144.
Silver and alloys, all forms [2] troy ounces	2,411	707	All from France.
Tin long tons	253	203	Malaya 186; Netherlands 10; France 7.
Zinc	703	739	Belgium-Luxembourg 298; France 213; U.S.S.R. 120.
Nonferrous ores, not elsewhere specified thousand tons	245	---	
Metallic slags and residues pyrite cinders	25,000	449	All from Spain.
Metallic oxides, mainly for paint	1,353	1,231	France 618; West Germany 290; Netherlands 82.
Nonmetals:			
Abrasives, natural	30	12	France 11.
Asbestos	1,995	2,682	Sterling areas 1,562; Canada 643; Central African Republic 236.
Barite	15	4	All from United States.
Borate, natural	287	418	All from France
Cement	5,157	7,291	France 7,014; Denmark 238.

See footnotes at end of table.

Table 2.—Morocco: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	50	---	
Metal and alloys, all forms [1]	275	514	West Germany 294; Italy 174; France 34.
Antimony concentrate	1,868	3,027	Belgium-Luxembourg 1,035; Japan 606; France 425.
Cobalt concentrate	14,601	6,250	France 4,472; Belgium-Luxembourg 1,777.
Copper:			
Ore and concentrate	4,579	5,782	West Germany 2,025; Poland 1.922; China (Mainland) 1,085.
Matte	328	345	All to Belgium-Luxembourg.
Metal and alloys, all forms [1]	1,018	1,088	West Germany 457; Italy 252; France 240.
Iron and steel:			
Ore thousand tons	994	957	West Germany 376; Great Britain 193; Spain 167.
Pyrite cinder	26,151	14,082	Spain 5,032; Portugal 4,210; Sweden 3,590.
Scrap	31,396	32,137	Italy 17,493; Spain 11,191; Yugoslavia 2,341.
Ferroalloys	45	15	All to Sweden.
Semimanufactures	122	132	Cuba 100; Senegal 8; France 6.
Lead:			
Concentrate	95,785	145,205	France 120,287; Italy 7,180; Belgium-Luxembourg 5,566.
Unwrought and scrap	17,096	14,243	France 13,685; Czechoslovakia 508; Italy 29.
Magnesium and alloys, ingot and scrap	5	---	
Manganese ore thousand tons	334	321	France 245; United States 38; West Germany 9.
Silver and alloys, unworked troy ounces	NA	NA	
Zinc:			
Concentrate	64,369	98,148	France 61,507; United States 19,144; Spain 13,400.
Semimanufactures	---	15	All to France.
Ore and concentrate, not elsewhere specified.	15,765	6,354	France 4,571; Belgium-Luxembourg 1,777.
Metallic slags and residues, not elsewhere specified.	1,171	2,123	France 1,367; Greece 729; Belgium-Luxembourg 25.
Metallic oxides, mainly for paint	869	689	France 673; Algeria 15.
Nonmetals:			
Barite	72,903	107,939	United States 43,180; Great Britain 22,801; Venezuela 12,532.
Cement	26,102	36,568	Spain 18,327; Great Britain 1,550; France 160.
Clays and clay products:			
Bentonite	8,536	6,157	France 2,659; Pakistan 671; Cuba 594.
Fuller's earth	37	NA	
Refractory	3,545	4,128	Spain 4,200; France 481; Cuba 45.
Smectic	23,200	22,308	France 15,151; Spain 7,087; Algeria 70.
Other	3,183	2,385	Tunisia 1,540; Algeria 625; Togo 190.
Construction materials	5,004	7,405	Cuba 1,866; Portugal 996; Libya 725.
Fertilizer materials:			
Crude:			
Guano	56	---	
Phosphate rock thousand tons	10,086	9,549	France 1,837; Belgium-Luxembourg 1,056; Spain 915; Great Britain 885; China (mainland) 604; West Germany 582; Netherlands 518.
Manufactured, phosphatic	32,878	265	All to Liberia.
Fluorspar	9,048	1,445	All to Hungary.
Gypsum and anhydrite	24,576	34,908	Japan 15,456; Portugal 12,411; Senegal 4,541.
Lime	346	3,636	Spain 3,607; Gibraltar 30.
Pyrite, crude	3,703	3,951	Belgium-Luxembourg 3,949.
Salt and saline solutions	312	5	Gibraltar 3.
Stone, sand and gravel:			
Sand, mainly industrial	10,322	21,470	Spain 21,448; Italy 22.
Stone, crushed and broken	454	141	Spain 75; Senegal 42; Belgium:Luxembourg 20.
Stone, dimension and other	14,232	63,831	Spain 5,476; Italy 3,669; Belgium-Luxembourg 1,984.
Minerals and chemicals, not elsewhere specified.	1	5	All to United States.

See footnotes at end of table.

Table 3.—Morocco: Imports of metals and minerals—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]	Principle sources, 1964
Nonmetals—Continued			
Chalk	3,157	2,670	France 2,498; Belgium-Luxembourg 110.
Clays and clay products:			
Bentonite	20	4	All from France.
Fuller's earth	12	84	France 75; United States 9.
Kaolin and refractory	9,688	15,701	British Guiana 6,669; France 5,180; United Kingdom 2,567.
Smectic	4,838	4,907	Algeria 4,906.
Other	501	672	France 669.
Construction materials	[e]5,100	3,939	France 1,062; West Germany 782; East Germany 617.
Diatomite	763	775	Belgium-Luxembourg 200; Algeria 188; Italy 116.
Dolomite and magnesite	410	212	France 106; Norway 56; Austria 49.
Fertilizer materials:			
Crude, all types	1,371	4,327	Italy 1,374; West Germany 1,060; Spain 1,000.
Manufactured:			
Nitrogenous	48,259	48,479	France 27,630; West Germany 14,555; Italy 2,217.
Phosphatic, including Thomas slag.	419	1,336	Belgium-Luxembourg 1,287; France 49.
Potassic	11,628	11,989	France 3,514; Spain 1,980; West Germany 1,937; Italy 1,436.
Mixed	16,988	13,637	France 7,350; West Germany 5,311; Italy 646.
Ammonia	162	---	
Graphite	15	18	All from France.
Lime	549	315	All from France.
Salt	5,475	239	Algeria 103; France 101.
Stone, sand and gravel:			
Sand, industrial	7,989	4,768	Belgium-Luxembourg 4,459.
Stone, crushed and broken	140	10	France 10.
Stone, dimension	[e]1,500	570	Italy 560.
Sulfur in all forms:			
Crude and refined	9,331	10,984	Mexico 9,952; France 447; West Germany 422.
Sulfuric acid	360	15	Belgium-Luxembourg 11.
Talc	1,473	1,237	France 1,012; Norway 216.
Minerals, not elsewhere specified	239	284	Sterling areas 104; West Germany 91; France 88.
Chemicals, inorganic:			
Potash, caustic	37	52	France 46; Spain 6.
Soda, caustic	4,654	5,266	France 5,164.
Other	220	133	West Germany 120; France 7.
Mineral fuels:			
Coal, coke and briquets thousand tons	121	44	Poland 30; Belgium-Luxembourg 7; West Germany 4.
Petroleum:			
Crude thousand 42-gallon barrels	8,385	7,846	U.S.S.R. 3,905; Algeria 1,878; Saudi Arabia 1,056.
Refinery products:[4]			
Gasoline do	46	55	Netherlands Antilles 36; Netherlands 13.
Kerosine do	176	189	Netherlands Antilles 78; France 70; Italy 8.
Distillate fuel oil do	70	51	Kuwait 19; Aden 11; Italy 8.
Residual fuel oil do	33	24	Venezuela 12; France 5; Netherlands 4.
Lubricants do	95	109	France 66; Netherlands 29; Belgium-Luxembourg 5.
Liquefied petroleum gas do	36	42	France 22; Italy 19.
Asphalt and bitumen do	260	228	France 110; Netherlands Antilles 87.
Paraffin, waxes and unspecified do	73	42	France 22; East Germany 9; West Germany 6.
Total do	789	740	
Tar, pitch and other crude chemicals from coal, oil and gas distillation.	4,207	2,136	Italy 1,565; France 315; Belgium-Luxembourg 91.
Carbon black	1,235	994	France 796; United States 141; United Kingdom 30.

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[e] Estimate. NA Not available.

[1] Source: Statistiques Du Mouvement Commercial Et Maritime Du Maroc, 1965; Ministere Du Commerce et De L'Artisanat; Mohammedia (Fedala), Moroc.

[2] Includes scrap, ingots, and semimanufactures.

[3] Includes iron powder and grains.

[4] Excludes receipts of fuel oils at Ceuta and Melila (Spanish enclaves), mainly for bunkers.

Mozambique

Table 1.—Mozambique: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Bauxite	6,216	6,593	6,278	5,683	[e] 5,000
Beryl	569	556	409	183	80
Bismuth	6	11	7	5	[e] 5
Cesium, concentrate, pollucite	-----	-----	4	7	-----
Columbium and tantalum concentrate, including microlite	157	153	[r] 189	140	135
Copper ore, chalcopyrite	-----	-----	122	340	696
Gold troy ounces	91	29	40	32	11
Tin ore, cassiterite kilograms	-----	-----	-----	101	583
Nonmetals:					
Asbestos	336	-----	-----	80	486
Cement thousand tons	179	167	182	220	[e] 227
Clays:					
Kaolinite	180	5	10	105	350
Montmorillonite, including bentonite	37	800	825	2,723	3,866
Diatomite	350	-----	-----	-----	33
Feldspar	-----	-----	-----	50	NA
Garnet kilograms	-----	-----	-----	2,724	1,588
Lime	6,543	NA	NA	NA	NA
Lithium mineral, lepidolite	274	104	-----	75	NA
Mica, including scrap	1	-----	-----	10	NA
Perlite	-----	-----	-----	24	-----
Quartz [2] kilograms	-----	208	452	405,400	-----
Salt [3] thousand tons	28	40	NA	30	20
Tourmaline	522	316	2,455	317	2,114
Mineral fuels:					
Coal, bituminous thousand tons	298	283	245	238	271
Petroleum refinery products:					
Gasoline	91,787	94,303	101,627	104,438	[4] 105,026
Distillate fuel oil	116,645	116,734	133,820	148,244	[4] 173,748
Residual fuel oil	214,411	230,659	246,261	241,687	[4] 269,334
Liquefied petroleum gas, butane	-----	1,337	2,239	2,567	[e] [4] 2,500
Total	422,843	443,033	483,947	496,936	[4] 550,608

[e] Estimate. NA Not available.

[1] In addition to commodites listed, construction materials such as clay, sand, gravel, and quarry dimension stone are produced, but quantitative data are not available. Substantial tonnages of lime and limestone also are produced but data are not available. Small quantities of minerals such euxenite, samarskite, monozite and amazonite are produced intermittently.

[2] Quartz crystal only during 1963–64; 405,000 kilograms of non-crystal variety in 1965.

[3] Largely marine salt; includes 20–30 tons of rock salt annually.

[4] January–November only.

Netherlands

Table 1.—Netherlands: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum[1] thousand tons	6	6	1	---	20
Cadmium metal[e]	40	40	40	40	40
Iron and steel:					
Sinter thousand tons	1,995	2,355	2,787	2,960	2,996
Pig iron and ferroalloys do	1,571	1,709	1,948	2,364	2,209
Ingots and other primary forms[2] do	2,078	2,333	2,646	3,138	3,268
Castings:					
Iron do	230	216	238	247	212
Steel do	9	9	8	8	9
Rolled steel do	1,555	1,759	1,908	2,101	2,600
Lead:					
Pig lead	9,577	11,864	17,315	15,372	14,656
Semimanufactures[1] thousand tons	18	16	18	17	18
Tin long tons	4,282	5,762	15,858	18,114	12,552
Zinc (primary)	37,049	35,762	37,702	40,821	41,357
Nonmetals:					
Cement thousand tons	2,015	2,081	2,873	2,973	3,163
Fertilizers:					
Nitrogenous, N content do	417	421	451	472	618
Phosphate, P_2O_5 content do	182	174	201	199	188
Potassic, K_2O content	2,600	[r] 2,600	2,500	2,500	NA
Salt thousand tons	1,262	1,479	1,596	1,707	1,857
Sulfur do	31	35	[r] 29	27	[e] 27
Mineral fuels:					
Coal:					
Anthracite and bituminous thousand tons	11,573	11,509	11,480	11,446	10,052
Coal briquets do	1,369	1,561	1,355	1,349	1,222
Coke and semicoke, including gas coke[3] do	4,474	4,447	4,623	4,383	3,887
Lignite briquets do	71	63	66	46	43
Tar do	144	140	151	NA	NA
Benzol do	52	[r] 45	48	NA	NA
Gas, manufactured million cubic feet	154,281	154,000	157,328	142,353	NA
Gas, natural[4] do	16,068	18,964	[r] 27,015	57,244	117,878
Peat[e] thousand tons	450	450	450	450	450
Petroleum:					
Crude thousand tons	2,157	2,215	2,270	2,395	2,366
Refinery products:					
Aviation jet fuels do	965	857	976	777	1,289
Motor gasoline do	3,501	3,827	2,769	2,746	2,250
Kerosine do	950	970	955	1,127	1,075
Solvents do	158	167	178	207	251
Residual fuel oil do	9,636	10,155	10,943	12,888	13,413
Distillate fuel oil do	5,465	5,164	6,025	6,567	7,837
Lubricants do	246	245	251	332	338
Bitumen do	469	584	681	678	745
Liquefied petroleum gas do	332	334	362	396	465
Refinery gas do	193	204	166	NA	NA
Carbon black do	NA	NA	52	62	70

[r] Revised. [p] Preliminary. NA Not available.

[1] Including alloys.

[2] Except castings.

[3] Including breeze.

[4] Deliveries for sale. Converted from Nm^3 (cubic meters at 15° C and 760 mm mercury) at rate of 35.314 cubic feet per cubic meter.

Table 2.—Netherlands: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminium:			
Bauxite and alumina	49	40	Belgium-Luxembourg 8; France 4; Italy 2.
Scrap	8,985	9,468	West Germany 8,655; Belgium-Luxembourg 788.
Ingot [1]	754	1,019	Belgium-Luxembourg 309; West Germany 245.
Semimanufactures	13,715	15,853	West Germany 5,079; Belgium-Luxembourg 3,306.
Bismuth, all forms	141	280	France 142; West Germany 70.
Cadmium, all forms	186	307	West Germany 182; France 51.
Chromite	1,272	1.002	United Kingdom 299; Italy 247.
Chrome oxides and hydroxide	13	66	West Germany 45.
Cobalt:			
Metal, all forms	59	88	United States 27; France 26.
Oxide and hydroxide	1	---	
Copper:			
Scrap	24,474	32,424	West Germany 15,856; Belgium-Luxembourg 14,734.
Unwrought [1]	7,586	5,742	West Germany 4,405; Belgium-Luxembourg 606.
Semimanufactures	13,699	16,173	West Germany 7,261; Belgium-Luxembourg 2,829.
Gold [2] thousand troy ounces	46	102	Oman 34; Switzerland 24.
Iron and steel:			
Iron ore thousand tons	3	7	West Germany 3; Belgium-Luxembourg 3.
Pyrite cinder do	249	258	West Germany 236.
Blast furnace slag and waste do	101	91	West Germany 50; Belgium-Luxembourg 41.
Scrap do	423	451	West Germany 331; Belgium-Luxembourg 69.
Pig iron and ferroalloys [3] do	95	85	Belgium-Luxembourg 29; West Germany 25.
Ingots and other primary forms do	[r] 496	609	Spain 234; Belgium-Luxembourg 145.
Semimanufactures			
Bars, rods, angles, shapes, sections do	164	197	West Germany 80; Belgium-Luxembourg 36.
Universals, plate and sheet do	777	870	West Germany 196; United Kingdom 142; Sweden 77.
Hoop and strip do	63	65	West Germany 48.
Railway track material do	7	9	West Germany 6; Indonesia 3.
Wire do	25	26	West Germany 8; Republic of South Africa 5.
Tubes, pipes and fittings do	123	134	West Germany 39; Belgium-Luxembourg 17.
Castings and forgings do	2	3	Belgium-Luxembourg 2; West Germany 1.
Oxide and hydroxide	536	317	Belgium-Luxembourg 134; Australia 48.
Lead:			
Scrap	8,430	7,604	Belgium-Luxembourg 6,641; West Germany 820.
Ashes and residues	4,762	4,531	Belgium-Luxembourg 3,359; West Germany 1,135.
Pig [1]	7,639	8,040	West Germany 7,107; Switzerland 378.
Antimonial and other alloys	1,576	1,798	West Germany 1,593.
Semimanufactures	1,847	1,550	United States 352; Norway 312.
Oxides	796	709	Czechoslovakia 449; Belgium-Luxembourg 165.
Magnesium, all forms	243	291	Belgium-Luxembourg 131; West Germany 75.
Manganese:			
Ore	8,592	8,727	West Germany 1,969; Belgium-Luxembourg 1,642; Italy 1,525.
Oxide	583	917	Italy 172; Denmark 107.
Mercury 76-pound flasks	203	609	West Germany 174; United Kingdom 174.
Molybdenum metal	67	126	West Germany 70; United Kingdom 17.

See footnotes at end of table.

Table 2.—Netherlands: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Nickel:			
Matte, Scrap	1,559	1,186	West Germany 470; United Kingdom 384.
Ingots anodes and semimanufactures [1]	278	295	West Germany 110; Spain 46.
Oxide and hydroxide	---	7	Australia 3; Belgium-Luxembourg 2.
Platinum and platinum group metals, all forms troy ounces	33,887	39,738	West Germany 12,346; Netherland Antillies 6,591; Switzerland 5,433.
Silver:			
Scrap and waste [4] thousand troy ounces	3,101	1,984	Belgium-Luxembourg 1,050; West Germany 758.
Unwrought [1] do	588	1,235	West Germany 380.
Semimanufactures do	362	359	Denmark 225; Belgium-Luxembourg 77.
Tantalum	2	2	France 1.
Tellurium and arsenic	1	2	All to West Germany.
Tin:			
Ore long tons	548	---	
Ashes and residues do	2,137	1,331	Spain 450; United Kingdom 427.
Ingots [1] do	14,420	15,965	West Germany 7,880; France 2,235.
Scrap and semimanufactures do	691	666	West Germany 226; United Kingdom 131.
Oxide do	---	1	All to India.
Titanium:			
Dioxide	6,188	8,628	West Germany 1,171; Italy 1,093.
Tungsten:			
Ore	57	87	West Germany 45; France 18.
Metal	220	229	United Kingdom 89; West Germany 84.
Vanadium, molybdenum, etc. ores	485	576	Belgium-Luxembourg 284; West Germany 110.
Zinc:			
Ore	8,161	5,821	Belgium-Luxembourg 3,977; Japan 1,844.
Ashes and residues	20,005	9,954	Belgium-Luxembourg 5,474; West Germany 2,748.
Scrap	9,287	10,129	France 9,460; West Germany 397.
Slab [1]	25,822	22,693	West Germany 15,812; Denmark 1,880.
Semimanufactures (include zinc dust)	1,337	1,386	Denmark 753; West Germany 316.
Oxide	10,771	9,510	West Germany 1,871; Belgium-Luxembourg 1,152.
Other nonferrous ores	160	---	
Other nonferrous metals [1]	538	779	West Germany 295; France 220.
Other nonferrous ashes and residues	10,321	9,516	West Germany 5,402; Belgium-Luxembourg 2,619.
Metalloids:			
Selenium	---	1	NA.
Silicon [3]	26	1	NA.
Other	498	672	Belgium-Luxembourg 666.
Alkali, alkaline-earth, and rare-earth metals	---	5	All to West Germany.
Oxides of strontium, barium and magnesium	185	99	NA.
Other slags and ashes thousand tons	22,571	26,820	Belgium-Luxembourg 22,338; West Germany 3,327.
Nonmetals:			
Abrasives, natural	9,470	4,747	West Germany 659; France 449.
Grinding stones	385	567	West Germany 246; Belgium-Luxembourg 64.
Asbestos	17	93	Belgium-Luxembourg 83.
Borates, natural	85,545	133,546	West Germany 50,445; United Kingdom 28,570.
Cement	9,059	12,705	West Germany 10,931.
Chalk	13,125	12,801	Belgium-Luxembourg 12,185.
Clays:			
Kaolin	212	116	France 48.
Refractory	2,094	1,487	Sweden 660; West Germany 371.
Other thousand tons	110	136	West Germany 103.
Construction materials:			
Refractory building production	8,469	6,754	West Germany 2,519; Belgium-Luxembourg 1,267.
Brick, etc. nonrefractory thousand tons	543	511	West Germany 421.

See footnotes at end of table.

Table 2.—Netherlands: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Diamond and other gem stones:			
Diamond, unworked and worked thousand carats	1,078	966	NA.
Diamond power do	695	880	West Germany 222; Italy 166; France 163.
Other gem stones, unworked and worked kilograms	941	10,679	Switzerland 10,222; Hong Kong 155.
Diatomaceous earth	94	144	West Germany 96.
Feldspar, leucite and fluorspar	5,130	2,095	Belgium-Luxembourg 1,883.
Fertilizers:			
Nitrogenous:			
Manufactured thousand tons	455	584	Mainland China 147; United Kingdom 69.
Phosphatic:			
Phosphate rock	1,324	976	Nigeria 510; Thailand 200.
Basic slag	190	7,794	West Germany 7,761.
Superphosphate and other thousand tons	465	378	France 133.
Potassic	1,038	1,568	Australia 466; Morocco 149.
Other thousand tons	285	466	NA.
Ammonia, anhydrous	2,320	5,093	West Germany 1,461; Belgium-Luxembourg 1,118.
Kyanite and andalusite	1,920	---	
Lime	2,517	976	NA.
Magnesite	38,836	32,735	West Germany 8,870.
Mica	178	104	Belgium-Luxembourg 76.
Potash, caustic	24	50	NA.
Quartz and quartzite	2,408	6,194	Finland 2,877; Belgium-Luxembourg 2,071; West Germany 1,077.
Salt thousand tons	959	979	Sweden 311; Belgium-Luxembourg 309.
Sand:			
Industrial thousand tons	243	189	West Germany 68; Italy 58.
Construction do	6,080	6,249	Belgium-Luxembourg 5,914.
Stone, building, unworked (including slate)	5,735	8,085	Belgium-Luxembourg 6,853; West Germany 1,021.
Stone, building, worked (including slate and natural paving stones)	19,972	11,264	Belgium-Luxembourg 10,543.
Stone, other, calcareous (including gypsum and plasters)	627	545	Belgium-Luxembourg 238; France 100.
Gravel and crushed stone thousand tons	2,247	2,027	Belgium-Luxembourg 1,702; West Germany 323.
Sulfur	4,493	3,052	All to Belgium-Luxembourg.
Sulfuric acid, oleum thousand tons	61	93	West Germany 56; Belgium-Luxembourg 34.
Sulfur dioxide	474	437	NA.
Talc and steatite	146	350	West Germany 95; Finland 71.
Other mineral substances thousand tons	111	164	Belgium-Luxembourg 107; West Germany 45.
Mineral fuels:			
Natural bitumen, asphalt, etc.	---	52	West Germany 33; Belgium-Luxembourg 18.
Carbon black	[r] 45,574	52,600	France 12,132; Sweden 8,762; West Germany 7,244.
Coal and coke:			
Anthracite and bituminous thousand tons	2,158	2,092	France 908; Belgium-Luxembourg 879.
Coal briquets do	776	835	West Germany 296; Belgium-Luxembourg 280; France 228.
Lignite briquets do	40	24	West Germany 12; France 7.
Peat do	43	33	Belgium-Luxembourg 13; West Germany 11.
Coke and semicoke do	2,327	2,404	France 946; Belgium-Luxembourg 745.
Gas:			
Hydrocarbon:			
Manufactured million cubic feet	[r] 79	18	All to West Germany.
Natural (including LPG) thousand tons	205	246	Belgium-Luxembourg 115; United Kingdom 48.
Hydrogen and rare gases	371	513	Belgium-Luxembourg 154; Denmark 131.

See footnotes at end of table.

Table 2.—Netherlands: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels—Continued			
Petroleum: [6]			
Crude thousand tons	7	11	Mainly to Denmark.
Refinery products:			
Gasoline do	[r] 2,962	3,127	United Kingdom 1,603; West Germany 368.
Kerosine, including jet fuel do	[r] 635	719	United Kingdom 315; Sweden 90.
Distillate fuel oils do	2,477	3,451	West Germany 1,722; Sweden 348.
Residual fuel oils do	6,390	6,413	Bunkers 2,797; United Kingdom 981; West Germany 914.
Lubricants do	[r] 339	333	West Germany 38; Sweden 34; Belgium-Luxembourg 33.
Paraffin, jelly, etc. do	22	22	West Germany 8; France 2.
Petroleum coke do	58	58	United Kingdom 31; Italy 15.
Bitumen, bituminous mixtures and other derivatives do	401	365	West Germany 274; Sweden 23.
Miscellaneous derivatives of coal, gas, and petroleum distillation do	86	122	West Germany 51; Belgium-Luxembourg 38.

[r] Revised. NA Not available.
[1] Including alloys.
[2] Excluding gold coin and gold and alloys shipped by post.
[3] Including sponge iron, shot, grit, pellets, powder, spiegeleisen and ferromanganese.
[4] In 1964, less than 99.7 percent pure; in 1965, less than 99.99 percent pure.
[5] Includes all precious metals.
[6] Includes bunkers for foreign ships and aircraft; excludes reexports from bonded storage.

Table 3.—Netherlands: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	4,330	21,690	Greece 20,647; British Guiana 945.
Alumina	9,054	10,594	West Germany 10,208; France 264.
Scrap	2,972	3,136	Belgium-Luxembourg 1,503; France 393.
Ingots	15,099	11,675	Australia 2,650; Canada 2,344; France 2,082; United States 1,973.
Alloys	7,274	8,499	West Germany 3,678; France 2,469; Switzerland 1,153.
Semimanufactures [1]	29,734	29,370	NA.
Antimony, all forms	294	234	Belgium-Luxembourg 126; mainland China 42.
Arsenic, oxides and acids	871	901	Belgium-Luxembourg 784.
Bismuth, all forms	157	150	United Kingdom 44; Belgium-Luxembourg 30.
Cadmium, all forms	177	251	U.S.S.R. 90; Belgium-Luxembourg 60.
Chromium:			
Ore	2,772	4,563	Philippines 1,524; Mozambique 1,093; Turkey 1,051.
Unwrought and semimanufactures	17	29	France 13; United Kingdom 12.
Oxide and hydroxide	587	581	West Germany 337; France 117.
Cobalt, unwrought and semimanufactures	164	248	Belgium-Luxembourg 185; France 41.
Copper:			
Scrap	8,703	10,440	West Germany 5,302; Belgium-Luxembourg 2,465; France 728.
Unwrought [1]	36,790	35,297	Belgium-Luxembourg 12,501; United States 6,651; United Kingdom 4,715.
Semimanufactures [1]	58,617	68,601	NA.
Gold [2] thousand troy ounces	193	243	United Kingdom 211.
Iron and steel:			
Ore thousand tons	3,048	3,570	Liberia 943; Sierra Leone 764; Sweden 561.
Pyrite cinder	13,027	6,237	All from West Germany.
Scrap thousand tons	44	99	Belgium-Luxembourg 63, West Germany 27; France 3.

See footnotes at end of table.

Table 3.—Netherlands: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Iron and steel—Continued			
Pig iron and blast furnace ferroalloys [3]	r 116	68	West Germany 19; Norway 12.
Other ferroalloys thousand tons	8	11	Norway 4; West Germany 3.
Ingots and other primary forms do	r 226	139	Belgium-Luxembourg 50; Norway 44.
Semimanufactures:			
Bars, rods, sections do	1,253	1,143	Belgium-Luxembourg 528; West Germany 454.
Universals, plates and sheets do	504	496	West Germany 244; Belgium-Luxembourg 154.
Hoop and strip do	220	196	Belgium-Luxembourg 97; West Germany 92.
Railway track material do	50	53	West Germany 36; Belgium-Luxembourg 12.
Wire do	59	59	Belgium-Luxembourg 36; West Germany 17.
Tubes, pipes and fittings do	431	398	West Germany 208; France 68.
Castings and forgings do	9	10	United Kingdom 4; Belgium-Luxembourg 3.
Oxide and hydroxide	10,219	9,782	West Germany 6,022; Spain 1,570; France 1,426.
Lead:			
Ore	---	290	All from West Germany.
Scrap	5,180	3,457	West Germany 1,390; Belgium-Luxembourg 954.
Ashes and residues	655	717	West Germany 631; Belgium-Luxembourg 64.
Pig [1]	37,930	45,607	Belgium-Luxembourg 19,850; Bulgaria 4,255; Republic of South Africa 3,885.
Antimonial and other alloys	11,117	10,099	Mexico 7,923; Belgium-Luxembourg 941.
Semimanufactures [1]	r 3,087	3,111	Belgium-Luxembourg 2,724; West Germany 133.
Oxides	7,982	8,155	Belgium-Luxembourg 2,773; Mexico 2,483; West Germany 1,680.
Magnesium:			
Scrap	53	64	Norway 40; West Germany 9.
Unwrought	208	187	Norway 140; United States 29.
Semimanufactures	122	76	West Germany 43; Austria 17.
Manganese:			
Ore	16,827	16,570	U.S.S.R. 5,318; Republic of South Africa 4,427.
Oxides	637	604	France 300; Japan 129.
Mercury 76-pound flasks	r 2,031	5,773	Spain 4,728; Belgium-Luxembourg 580.
Molybdenum (metal)	12	36	West Germany 23.
Nickel:			
Matte, speiss, etc.	---	120	France 61; United Kingdom 43.
Scrap	910	745	West Germany 184; United Kingdom 122.
Ingots and anodes [1]	976	994	United Kingdom 516; Norway 377.
Semimanufactures [1]	1,906	1,908	West Germany 1,252; United Kingdom 366.
Platinum and platinum-group metals thousand troy ounces	66	74	West Germany 24; France 16.
Silver:			
Scrap and waste [4] do	339	145	Denmark 130; West Germany 9.
Unwrought [1] do	3,039	4,646	United Kingdom 2,483; West Germany 1,009.
Semimanufactures do	2,648	3,149	West Germany 1,126; France 1,029.
Tantalum	2	4	United States 3.
Tellurium and arsenic	3	3	Canada 1; Japan 1.
Tin:			
Ore long tons	28,782	24,021	Indonesia 17,898; Thailand 4,020.
Ashes and residues do	594	671	West Germany 380; Southern Rhodesia 194.
Ingots [1] do	1,502	1,188	Mainland China 413; United States 134.
Scrap and semimanufactures do	241	394	Belgium-Luxembourg 162; West Germany 112.
Oxide do	88	70	West Germany 38; Belgium-Luxembourg 25.
Titanium dioxide	2,194	3,961	West Germany 2,239; Belgium-Luxembourg 1,407.

See footnotes at end of table.

Table 3.—Netherlands: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Tungsten:			
Ore	61	244	Portugal 203.
Metal	37	23	United States 9; France 4.
Vanadium, molybdenum, etc. ores	6,384	7,618	Australia 2,966; United Kingdom 1,876.
Zinc:			
Ore	105,594	85,147	Finland 26,183; Canada 21,955; West Germany 13,356.
Ashes and residues	28,411	25,261	West Germany 17,110; United Kingdom 2,827.
Scrap	253	1,282	West Germany 1,075; East Germany 100.
Slab [1]	15,835	17,583	Belgium-Luxembourg 4,545; U.S.S.R. 3,530; North Korea 2,704.
Semimanufactures (including dust)	8,001	6,876	Belgium-Luxembourg 3,591; United Kingdom 1,644; West Germany 1,422.
Oxides	1,868	2,094	West Germany 1,213; Belgium-Luxembourg 431.
Other nonferrous ores	r 6,984	5,522	Republic of South Africa 3,803.
Other nonferrous metals and scrap [1]	r 182	173	NA.
Metalloids:			
Selenium	2	5	West Germany 2; United Kingdom 1.
Silicon [5]	105	99	Sweden 40; Italy 30; Norway 21.
Alkali, alkaline-earth and rare-metals	101	111	West Germany 108.
Oxides of strontium, barium, and magnesium	498	514	United Kingdom 186; United States 182.
Blast furnace dust, slag and waste thousand tons	1,470	1,553	West Germany 799; Belgium-Luxembourg 752.
Other slags and ashes do	248	298	West Germany 205; Belgium-Luxembourg 92.
Nonmetals:			
Abrasives, natural thousand tons	448	434	West Germany 402; Italy 26.
Grinding stones	1,441	1,669	West Germany 793; United Kingdom 221.
Asbestos	23,276	18,931	Canada 10,627; U.S.S.R. 2,545; Italy 1,485.
Barite	37,071	29,162	West Germany 24,165; France 1,583.
Borates, natural	92,182	164,972	United States 164,772.
Boric oxide, boric acid	2,370	2,464	France 1,452; Italy 462.
Cement thousand tons	1,846	2,018	Belgium-Luxembourg 1,196; West Germany 803.
Chalk	70,769	72,610	Belgium-Luxembourg 38,986; France 25,823; West Germany 7,210.
Clays:			
Kaolin thousand tons	130	128	United Kingdom 108.
Refractory do	75	83	West Germany 57; United Kingdom 11.
Other do	455	466	West Germany 428.
Construction materials:			
Refractory thousand tons	52	52	West Germany 21; United Kingdom 17.
Brick, etc., nonrefractory do	202	202	Belgium-Luxembourg 114; West Germany 71.
Cryolite and chiolite, natural	210	143	All from Denmark.
Diamond and other gem stones:			
Diamond, unworked and worked thousand carats	1,438	1,184	NA.
Diamond powder do	597	950	Ireland 663; United Kingdom 147.
Other gem stones, unworked and worked [6] thousand kilograms	161	148	Brazil 98; West Germany 46.
Diatomaceous earth	8,180	8,532	Hungary 3,690; West Germany 2,129.
Dolomite thousand tons	314	422	Belgium-Luxembourg 364.
Feldspar and leucite	28,946	26,966	Norway 7,755; West Germany 7,047; Canada 5,417.
Fertilizer materials:			
Natural:			
Phosphate rock thousand tons	810	783	Morocco 540; Togo 157.
Potassium salts do	80	88	France 46; West Germany 42.
Sodium nitrate do	17	30	All from Chile.
Manufactured:			
Nitrogenous	3	7	Belgium-Luxembourg 5; West Germany 1.
Phosphatic:			
Basic slag thousand tons	234	254	Belgium-Luxembourg 215.
Other	103	61	United States 38; Belgium-Luxembourg 14.
Potassic thousand tons	402	411	West Germany 179; Belgium-Luxembourg 89.

See footnotes at end of table.

Table 3.—Netherlands: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Fertilizer materials—Continued			
Other	47	60	Belgium-Luxembourg 43; West Germany 8.
Ammonia, anhydrous	19,326	27,512	West Germany 21,278; Belgium-Luxembourg 6,221.
Fluorspar	14,472	18,972	Mainland China 8,959; Republic of South Africa 5,129; Mexico 2,519.
Graphite, natural	364	342	Austria 144; West Germany 126.
Gypsum thousand tons	247	204	West Germany 137; France 49.
Kyanite and andalusite	4,700	---	
Lime thousand tons	594	645	West Germany 324; Belgium-Luxembourg 302.
Limestone do	769	811	Belgium-Luxembourg 808; West Germany 3.
Magnesite	52,120	43,620	Greece 22,039; India 6,154; Yugoslavia 3,967.
Mica:			
Unworked, including waste and scrap	793	957	United Kingdom 408; Norway 282.
Worked	55	60	Switzerland 29; United Kingdom 18.
Pigments, natural	1,043	1,028	France 395; Austria 260; West Germany 222.
Pyrite thousand tons	244	211	Cyprus 116; Spain 77.
Quartz and quartzite	32,826	45,815	Belgium-Luxembourg 20,170; Norway 13,475.
Salt	34,979	35,593	West Germany 25,995; Italy 7,268.
Soda, caustic	66,542	73,254	West Germany 48,455; United States 14,044.
Potash, caustic	7,100	6,642	France 2,698; Belgium-Luxembourg 2,655.
Slate	32,939	31,306	West Germany 16,071; France 6,980.
Stone, sand and gravel:			
Stone, dimension thousand tons	1,526	1,529	Belgium-Luxembourg 1,177; West Germany 279.
Gravel and crushed stone do	7,998	8,753	West Germany 5,156; Belgium-Luxembourg 3,140.
Sand, industrial do	298	333	Belgium-Luxembourg 269.
Sand, other do	1,823	2,408	West Germany 1,932; Belgium-Luxembourg 474.
Sulfur, elemental do	167	218	United States 148; France 56.
Sulfuric acid, oleum	100,694	75,243	Belgium-Luxembourg 40,660; West Germany 20,869.
Sulfur dioxide	262	---	
Mineral fuels:			
Asphalt and bitumen, natural	1,357	1,518	Trinidad 821; United States 450; Belgium-Luxembourg 185.
Carbon black (including other black of carbon)	[r] 11,241	8,918	West Germany 3,548; France 2,338; United States 1,171; United Kingdom 1,143.
Coal and coke:			
Anthracite and bituminous thousand tons	9,297	7,107	West Germany 2,811; United States 2,174; United Kingdom 816; Belgium-Luxembourg 808.
Coal briquets do	93	55	West Germany 50; Belgium-Luxembourg 5.
Lignite do	204	149	All from West Germany.
Lignite briquets do	160	146	West Germany 134.
Peat do	75	73	Mainly from West Germany.
Coke and semicoke do	310	281	West Germany 203; United Kingdom 68.
Gas:			
Hydrocarbon:			
Manufactured million cubic feet	319	110	Belgium-Luxembourg 86; West Germany 24.
Natural (including LPG) thousand tons	102	106	West Germany 82; Belgium-Luxembourg 22.
Hydrogen and rare gases	64	56	Hungary 25; Belgium-Luxembourg 21.
Petroleum: [7]			
Crude thousand tons	23,438	26,379	Kuwait 5,143; Syria 4,225; Libya 3,854.
Refinery products:			
Gasoline do	[r] 284	[r] 409	Netherlands Antilles 191; Belgium-Luxembourg 114.
Kerosine, include jet fuel do	[r] 364	[r] 367	Belgium-Luxembourg 192; Portugal 59.

See footnotes at end of table.

Table 3.—Netherlands: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965 p	Principal sources, 1965
Mineral fuels—Continued			
Petroleum—Continued			
Refinery products—Continued			
Distillate fuel oils----do----	1,388	1,301	Belgium-Luxembourg 330; Italy 355; Venezuela 138.
Residual fuel oils-----do----	3,747	4,082	Indonesia 1,646; West Germany 1,027; United Kingdom 504.
Lubricants----------do----	r 188	337	Netherlands Antilles 169; Belgium-Luxembourg 45.
Paraffin, jelly, etc.-----do----	29	19	West Germany 7; Indonesia 3.
Petroleum coke------------	52	54	West Germany 33; United States 19.
Bitumen, bituminous mixtures and other derivatives--------------do----	223	210	United States 87; Belgium-Luxembourg 81.
Miscellaneous derivatives of coal, gas, and petroleum distillation do----	r 134	153	Belgium-Luxembourg 41; West Germany 32.

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r Revised. p Preliminary. NA Not available.

[1] Including alloys.

[2] Excluding gold coin and gold and alloys shipped by post.

[3] Including sponge iron, shot, grit, pellets and powder; spiegeleisen and ferromanganese.

[4] Including other precious metals.

[5] In 1964, not more than 99.7 percent pure; in 1965 at least 99.99 percent pure.

[6] Including articles of piezo-electric quartz.

[7] Includes bunkers for Netherlands ships and aircraft; excludes deliveries to bonded storage.

Netherlands Antilles

Table 1.—Netherlands Antilles: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Limestone cubic meters	21,389	[e] 20,000	31,964	[1] 38,273	NA
Nitrogenous fertilizers	---	---	NA	84,000	NA
Phosphate rock thousand tons	131	124	111	112	147
Salt	121	281	93	[e] 2,000	[e] 2,000
Sulfur, recovered [e]	[r] 31,000	[r] 35,000	[r] 29,000	30,000	[e] 30,000
Mineral fuels: Petroleum refinery products:					
Aviation and motor gasoline thousand 42-gallon barrels	46,804	43,462	41,200	43,145	44,623
Kerosine and jet fuel do	19,624	18,683	19,380	18,116	20,303
Distillate fuel oil do	48,908	52,027	41,187	32,762	41,319
Residual fuel oil do	157,534	153,442	161,801	161,636	143,455
Lubricants do	2,811	2,774	2,891	2,763	2,785
Other do	14,154	19,215	20,231	21,705	20,358

[e] Estimate. NA Not available.

[1] Sales.

Table 2.—Netherlands Antilles: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Metalliferous ores, not otherwise specified	55	---	
Iron and steel:			
Scrap	31	3,633	Mainly to Netherlands.
Other	33	25	Mainly to United States.
Nonferrous metals and alloys	---	19	All to Italy.
Nonferrous scrap	936	1,526	West Germany 565; Japan 389.
Nonmetals:			
Lime	16	2	St. Vincent 1; Colombia 1.
Phosphate rock	119,554	114,890	Mainly to United States.
Salt	48	---	
Nonmetals, n.e.s.	---	9,654	Mainly to Surinam.
Mineral fuels:			
Petroleum:			
Crude thousand tons	486	375	Mainly to United States.
Refinery products:			
Aviation gasoline do	1,583	1,528	Brazil 143; Netherlands 89; Indonesia 85.
Motor gasoline do	2,870	3,080	United States 869; United Kingdom 496.
Kerosine and white spirit do	811	725	Canada 225; Chile 65; Netherlands 60.
Jet fuel do	2,928	3,056	United States 1,544; Puerto Rico 115.
Distillate fuel oil do	5,249	4,147	United States 916; Japan 608; West Germany 368.
Residual fuel oil do	22,209	22,211	Mainly to United States.
Lubricants including greases thousand tons	874	1,001	United Kingdom 452; Netherlands 206.
Vaseline, paraffin, and wax do	43	37	Mainly to United Kingdom.
Asphalt do	921	881	Mainly to United States.
Other [1] do	34	34	Mainly to Nigeria.

[1] Includes process oil and cutbacks.

Table 3.—Netherlands Antilles: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, all forms	111	82	Mainly from United States.
Copper and alloys, all forms	250	241	France 70; Netherlands 47.
Iron and steel:			
Castings and forgings	64	58	Mainly from United Kingdom.
Shapes and sections	2,562	2,461	Mainly from Netherlands.
Hoop and strip	11	28	Do.
Plate and sheet	4,171	3,667	Netherlands 1,142; United Kingdom 1,020.
Wire	75	103	Mainly from Netherlands.
Pipes, tubes, and fittings	5,716	6,223	Japan 2,855; West Germany 837.
Other	54	23	Mainly from Netherlands.
Lead and alloys, all forms	61	57	Do.
Nickel and alloys, all forms	3	5	Mainly from United States.
Silver and platinum group metals, all forms troy ounces	696	531	Mainly from Netherlands.
Tin and alloys, all forms long tons	8	4	Netherlands 2; United Kingdom 2.
Zinc and alloys, all forms	102	71	Mainly from Netherlands.
Metalliferous ores, n.e.s.	481	134	All from Surinam.
Nonferrous metal scrap	28	101	Mainly from Colombia.
Other nonferrous metals and alloys	38	65	Mainly from United States.
Nonmetals:			
Cement	34,679	32,847	Venezuela 19,847; Colombia 11,178.
Clay and clay products:			
Common and fireclay	4,586	5,036	Mainly from United States.
Common bricks	18,143	---	
Refractory bricks	757	2,061	Netherlands 807; United States 760.
Fertilizer:			
Natural	8,773	31,460	Mainly from United States.
Manufactured	27,025	142	Do.
Lime	155	202	United Kingdom 139; United States 41.
Salt	586	632	Mainly from United States.
Sand	716	7,288	Mainly from Surinam.
Sodium carbonate	93	142	Mainly from United States.
Sodium hydroxide	35,420	33,997	Do.
Stone, dimension	73	---	
Sulfur	1,990	---	
Nonmetals, n.e.s.	2,117	1,992	United States 828; United Kingdom 636.
Mineral fuels:			
Coal, coke and briquets	38	42	Mainly from United States.
Mineral tars and derivatives	55	34	Mainly from Netherlands.
Petroleum:			
Crude thousand tons	40,834	40,811	Mainly from Venezuela.
Natural gasoline do	64	57	All from Venezuela.
Refinery products:			
Aviation gasoline thousand tons	711	598	United States 261; Venezuela 193.
Other gasoline do	218	372	Venezuela 298.
Kerosine and jet fuel do	102	242	Mainly from Venezuela.
Distillate fuel oil do	68	217	Do.
Residual fuel oil do	2,583	913	Do.
Lubricants, including greases do	3	1,057	Mainly from United States.
Butane do	60	76	All from Venezuela.
Other [1] do	---	10	All from United States.

[1] Includes process oil and asphalt.

New Caledonia

Table 1.—New Caledonia: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Chromite (51–53 percent Cr_2O_3)	15,455	---	---	---	---
Iron ore (55–56 percent Fe)...thousand tons	303	299	[r] 307	279	220
Nickel:					
Ore [1]...do	1,458	[r] 1,934	[r] 2,615	[r] 2,648	2,775
Metallurgical products: [2]					
Ferronickel (nickel-cobalt content)	5,506	[r] 8,305	[r] 13,207	[r] 15,552	20,272
Matte (nickel-cobalt content)	9,858	14,146	13,298	15,816	14,153
Total recoverable nickel-cobalt [e]	26,105	34,399	47,387	52,100	60,700
Nonmetals: Giobertite [3]	1,176	12	1,007	755	635

[e] Estimate. [p] Preliminary. [r] Revised.

[1] Mine-run ore, about 25 percent water; nickel content 2.8–3.5 percent by dry analysis.

[2] Ferronickel grading 24–28 percent nickel-cobalt, mattes about 79 percent nickel-cobalt.

[3] Magnesian mineral used for refractories.

Source: Mines Service of New Caledonia.

Table 2.—New Caledonia: Exports of mineral commodities

(Metric tons)

Commodity	1964	1965	Principal destinations, 1965
Chromite	5,994	---	
Iron ore	292,480	288,276	All to Australia.
Nickel ore	1,098,861	870,609	All to Japan.
Smelter products: [1]			
Ferronickel:			
Electric grade (FN4 grade—25.1 percent nickel-cobalt)	2,473	3,456	France 3,064; Australia 336.
Sulfur extracted (FN3 grade—24.5 percent nickel-cobalt)	1,850	3,410	France 3,162; Italy 248.
Refined (FN2 grade—26.3 percent nickel-cobalt)	167	230	All to France.
Overrefined (FN1 grade—27.5 percent nickel-cobalt)	8,378	8,964	France 7,843; Japan 998.
Matte: Nickel matte (79 percent nickel-cobalt)	13,485	15,785	France 7,473; Canada 5,259; Japan 3,053

[1] Data in terms of contained nickel plus cobalt.

Source: Mines Service of New Caledonia.

Table 3.—New Caledonia: Imports of mineral commodities

(Metric tons)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Iron and steel, semimanufactures	11,474	25,774	France 23,362; Australia 1,525.
Nonferrous metals, not further described	238	362	France 293; Australia 56.
Nonmetals:			
Cement, lime, dimension stone, and asbestos cement products	26,917	38,806	Japan 20,360; France 16,917.
Clay bricks and tile	5,239	8,498	France 5,959; Austria 1,578.
Fertilizers, processed	439	488	France 390; Japan 36.
Sand, gravel, and crushed rock	57,561	46,187	Mexico 46,039; France 138.
Other nonmetals	670	709	France 385; Belgium-Luxembourg 90; Australia 85.
Mineral fuels:			
Coal, coke, and briquets	287,673	304,006	All from Australia.
Petroleum products	154,887	172,123	Australia 124,772; Malaysia 12,180; Iran 9,536.
Gas, natural and manufactured	925	1,659	Australia 1,211; Indonesia 210.

New Zealand

Table 1.—New Zealand: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966[p]
Metals:					
Copper ore, gross weight	104	234	736	144	---
Gold troy ounces	21,742	14,206	8,948	12,136	8,965
Iron ore, gross weight	1,525	3,123	2,591	2,272	2,666
Silver troy ounces	416	286	141	55	2
Tungsten ore, gross weight	9	5	5	---	3
Nonmetals:					
Asbestos	415	398	---	---	---
Bentonite	1,512	1,687	1,835	2,973	2,248
Cement	631,000	722,000	787,800	841,844	878,000
Clay:					
Pottery, etc	7,335	7,837	5,961	7,541	8,561
Structural types	321,214	293,859	304,221	360,145	NA
Diatomite	1,904	1,629	1,706	1,757	4,735
Dolomite	5,840	4,457	9,311	7,677	13,464
Fertilizers, manufactured superphosphate thousand tons	1,249	1,480	1,795	1,968	NA
Kauri gum	[e] 44	[e] 44	38	41	49
Limestone:					
Agricultural and industrial thousand tons	901	929	1,247	1,163	2,856
For cement do	1,111	1,206	1,362	1,498	
Magnesite	645	794	613	850	566
Perlite	393	573	929	1,142	NA
Pumice	33,044	16,873	20,847	109,594	18,329
Salt	9,043	11,177	21,674	34,718	36,019
Sand, rock and gravel thousand tons	18,394	20,071	19,900	10,443	NA
Serpentine do	142	136	137	134	141
Silica (glass) sand	63,318	64,844	43,945	74,734	92,419
Stone, dimension	16,270	12,681	20,887	4,376	9,697
Mineral fuels:					
Coal:					
Anthracite thousand tons	1	(1)	(1)	(1)	---
Bituminous do	711	671	693	674	642
Subbituminous do	1,728	1,951	2,071	[r] 1,867	1,826
Lignite do	151	164	159	160	168
Total do	2,591	2,786	2,923	[r] 2,701	2,636
Coke:					
High temperature thousand tons	6	6	6	6	6
Low temperature do	88	78	80	69	67
Fuel briquets do	12	11	15	18	[e] 20
Natural gas million cubic feet	4	[r] 3	5	5	4
Condensate thousand 42-gallon barrels	3	4	4	(1)	NA
Petroleum: Crude do	4	4	4	[r] 5	4
Refinery products: [2]					
Gasoline, total thousand 42-gallon barrels	---	---	2,094	8,253	9,625
Distillate fuel oil do	---	---	833	3,378	3,467
Residual fuel oil do	---	---	1,179	4,893	4,150
Other products do	---	---	48	279	1,565
Refinery fuel and loss do	---	---	249	609	1,618
Total do	---	---	4,403	17,412	20,425

[e] Estimate. [p] Preliminary. NA Not available.

[1] Less than ½ unit.

[2] Estimates based on latest available data.

Table 2.—New Zealand: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and its alloys:			
Scrap	744	717	Japan 301; Australia 291.
Unwrought	NA	112	Belgium-Luxembourg 91.
Semimanufactures	29	15	Australia 9.
Copper:			
Ores and concentrates	94	---	
Metal and alloys:			
Scrap	684	840	West Germany 344; Japan 246; Belgium-Luxembourg 102.
Unwrought	670	290	Australia 107; Italy 80; Japan 71.
Semimanufactures	1,356	726	Australia 228; West Germany 166; Netherlands 117; Japan 87.
Iron and Steel:			
Scrap	712	399	Japan 357.
Semimanufactures	44	178	Hong Kong 134.
Lead and its alloys:			
Scrap	2,326	1,139	Republic of South Africa 437; Belgium-Luxembourg 131; Denmark 109; Netherlands 108; United Kingdom 104.
Unwrought	189	932	Republic of South Africa 281; Japan 181; Belgium-Luxembourg 156; Australia 118.
Semimanufactures	---	108	United Kingdom 78; Denmark 27.
Silver and platinum ores	2,032	---	
Tin and its alloys:			
Scrap long tons	4,799	4,924	Netherlands 3,246; Japan 1,587.
Unwrought and worked do	---	8	Netherlands 1, other countries not disclosed.
Nonmetals:			
Abrasives, natural value, thousand US$	31	33	Australia 27.
Cement, lime, and fabricated building materials value, thousand US$	37	93	Fiji 70; Western Samoa 16.
Clay and refractory building materials do	31	43	Fiji 34.
Fertilizer materials:			
Crude	3,394	987	Australia 498; Japan 254; Malaysia 66.
Manufactured fertilizers	424	---	
Mineral fuels:			
Coal, coke, briquets	809	---	
Bituminous materials from coal and petroleum	---	1,480	All to Fiji.
Petroleum:			
Crude	1,250	---	
Refinery products:			
Gasoline value, thousand US$	---	19	NA.
Fuel oils:			
Distillate do	430	1,372	Ships bunkers 1,365.
Residual do	1,141	2,372	Ships bunkers 1,021; Malaysia 897.

NA Not available.

Table 3.—New Zealand: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Oxides and hydroxides	170	269	Australia 114; West Germany 86; United Kingdom 38.
Metal and alloys:			
Unwrought	8,153	9,228	Canada 6,260; United States 1,707; Australia 1,158.
Semimanufactures	3,013	2,752	Canada 1,196; Australia 221; United States 196.
Arsenic oxides and acids	137	144	NA.
Chromium oxide and hydroxide	166	203	West Germany 92; United Kingdom 72; Australia 32.
Copper and its alloys:			
Unwrought	128	228	All from United Kingdom.
Bars, wire, etc.	7,203	7,282	United Kingdom 3,347; Australia 3,241.
Plate, sheet, strip	3,151	2,855	United Kingdom 1,499; Australia 903; Canada 434.
Pipes, tubes, and fittings	4,039	4,352	Canada 1,951; Australia 1,364; United Kingdom 1,011.
Iron and steel:			
Pig iron and blast furnace products	9,415	8,775	Australia 6,662; Republic of South Africa 1,333.
Primary forms	104	152	United Kingdom 49; Australia 34; Austria 23.
Semimanufactures:			
Rods, bars and sections	152,241	206,341	Japan 81,453; Australia 72,184; United Kingdom 46,497.
Universals, plates and sheets	178,580	207,938	Japan 84,217; Australia 82,031; United Kingdom 39,003.
Hoop and strip	12,712	13,982	United Kingdom 5,777; Japan 4,516; Australia 2,777.
Rails and track materials	18,256	13,863	United Kingdom 9,032; Australia 4,785.
Wire	48,552	35,960	Australia 16,959; United Kingdom 11,276; Belgium-Luxembourg 5,851.
Pipes, tubes and fittings	37,829	48,626	United Kingdom 29,145; Australia 16,934; Canada 1,137.
Lead:			
Oxides	1,241	985	Australia 911; United Kingdom 67.
Metal and alloys:			
Unwrought	5,704	6,561	Australia 6,432; United Kingdom 97.
Semimanufactures	17	36	United Kingdom 22.
Magnesium, unwrought	---	83	United States 81.
Manganese oxides	544	289	United States 100; India 68; Australia 56.
Mercury 76-pound flasks	232	58	United Kingdom 29; mainland China 29.
Nickel, metal and its alloys:			
Unwrought	37	59	United Kingdom 50; Canada 9.
Semimanufactures	185	205	Canada 96; United Kingdom 78; Australia 22.
Silver, unworked and partly worked thousand troy ounces	1,907	1,628	Australia 1,110; United Kingdom 484.
Tin:			
Oxides long tons	8	9	United Kingdom 6; Australia 3.
Metal and alloys:			
Unwrought do	364	456	Malaysia 419; United Kingdom 24; Australia 14.
Semimanufactures do	16	13	All from United Kingdom.
Titanium oxides	4,887	3,323	Japan 1,525; Australia 1,084; United Kingdom 550.
Zinc:			
Oxide and peroxide	62	59	Mostly from West Europe.
Metal and alloys:			
Unwrought	4,308	3,670	Australia 3,654.
Semimanufactures	652	764	Australia 541; United Kingdom 119; Belgium-Luxembourg 90.
Nonmetals:			
Asbestos, crude	6,320	7,854	Canada 5,569; Republic of South Africa 1,338; Australia 758.
Barite (barium sulfate)	739	729	West Germany 570.
Cement:			
Construction types	3,745	3,192	United Kingdom 1,637; Denmark 727; Japan 595.
Refractory cement and mortar	803	947	United Kingdom 659; Australia 136; United States 132.
Chalk	1,144	1,227	France 546; United Kingdom 360.
Clay and similar refractory materials, crude	4,269	4,560	United States 2,717; United Kingdom 1,086; Australia 680.
Feldspar, fluorspar and nepheline syenite	1,191	1,386	Sweden 1,042; Norway 244.

See footnotes at end of table.

Table 3.—New Zealand: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued:			
Fertilizer materials:			
Crude, natural:			
Sodium nitrate	2,216	3,821	Chile 3,618; Belgium-Luxembourg 203.
Phosphates	929,213	867,218	Oceania 537,026; United States 170,000; French Polynesia 146,876.
Potassic	19,499	---	
Manufactured:			
Phosphatic, including basic slag	28,996	19,627	Belgium-Luxembourg 16,680; United States 2,377.
Potassic	130,779	167,841	United States 82,005; Canada 55,909; West Germany 26,157.
Graphite, natural	---	54	NA.
Gypsum and plasters	119,181	109,341	Australia 107,569; West Germany 1,455.
Infusorial earths	607	791	United States 736.
Lime	328	331	United Kingdom 266.
Magnesite	133	178	Australia 110.
Pigments, including titanium and iron oxides	7,335	5,363	Australia 2,082; Japan 1,578; United Kingdom 823; West Germany 443.
Quartz, and quartzite	614	725	Belgium-Luxembourg 497; Australia 212.
Salt	71,905	50,130	United Kingdom 35,707; Australia 11,934; West Germany 567.
Stone, sand and gravel:			
Building, dimension stone, and slate	1,024	1,037	Sweden 415; Republic of South Africa 272; Italy 109.
Calcareous stone	119,189	109,350	Australia 107,569; West Germany 1,455.
Sand, gravel and crushed stone	1,553	1,357	Belgium-Luxembourg 883; Australia 367.
Sulfur, industrial and pure grades	204,289	181,700	United States 113,091; Canada 36,424; Mexico 31,682.
Talc and steatite	1,222	1,666	Australia 1,394.
Mineral fuels:			
Coal	561	2,978	Australia 2,969.
Coke and briquets	85	123	All from United Kingdom.
Bitumen, natural	440	722	Trinidad 695.
Carbon black	4,023	4,009	Australia 1,681; United States 1,323; United Kingdom 913.
Petroleum:			
Crude thousand tons	854	1,514	Iran 763; Kuwait 567; Qatar 68; Brunei 62.
Partly refined thousand 42-gallon barrels	1,315	5,984	Kuwait 3,279; Malaysia 1,103; India 209.
Refinery products:			
Gasoline do	7,253	2,017	Iran 592; Australia 456; Malaysia 364; Saudi Arabia 195.
Kerosine do	1,104	996	Australia 314; Iran 260; Malaysia 202; Indonesia 113.
Fuel oils:			
Distallate do	2,622	945	Australia 410; Malaysia 241; Saudi Arabia 218.
Residual do	1,585	268	Australia 155; Kuwait 104.
Mineral Jelly and wax	2,363	3,955	United States 2,138; Indonesia 1,331.
Lubricants value, thousand US$	5,584	5,464	United Kingdom 2,270; United States 1,596; Australia 1,418.
Nonlubricating oils thousand 42-gallon barrels	40	47	United States 24; Indonesia 7; United Kingdom 7; Australia 5.
Other thousand tons	61	19	Netherlands Antilles 17; Australia 2.
Mineral tar from coal, petroleum or gas thousand 42-gallon barrels	17	4	All from United Kingdom.

NA Not available.

Nicaragua

Table 1.—Nicaragua: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	965	1966
Metals:					
Copper concentrate, metal content	7,272	7,283	9,240	10,186	9,764
Gold troy ounces	221,984	204,769	225,581	198,152	199,108
Silver do	500,050	405,252	332,370	380,377	446,706
Nonmetals:					
Cement	45,906	53,812	61,052	65,859	84,349
Diatomaceous earth	1,283	e 1,600	---	---	---
Gypsum	3,250	2,500	5,500	5,000	9,000
Lime	26,013	28,400	26,390	r 26,715	27,083
Limestone [1] thousand tons	122	140	148	157	200
Salt, marine	9,467	16,495	17,319	17,582	19,017
Mineral fuels: Petroleum refinery products:					
Motor gasoline thousand 42-gallon barrels	---	399	606	674	743
Kerosine and jet fuel do	---	116	163	152	169
Distillate fuel oil do	---	240	404	471	506
Residual fuel oil do	---	371	583	308	450
Liquefied petroleum gas do	---	11	18	27	36
Total do	---	1,137	1,774	1,632	1,904

e Estimate. r Revised.

[1] For cement and lime production only.

Table 2.—Nicaragua: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Copper concentrates, gross weight	34,083	40,229	West Germany 40,228.
Gold, bars and ingots troy ounces	200,749	140,016	United States 56,617; Canada 53,274.
Iron and steel:			
Ingots and semimanufactures	1,943	2,761	Costa Rica 937; El Salvador 799; Honduras 560.
Scrap	73	---	
Silver, bars and ingots troy ounces	168,791	403,267	All to United States.
Zinc, all forms	104	53	Costa Rica 39; Guatemala 14.
Nonmetals:			
Lime	11	3	All to Costa Rica.
Salt	96	389	Costa Rica 382.

Source: Anuario Estadístico Centroamericano de Comercio Exterior 1965. SIECA. 795 pp.

Table 3.—Nicaragua: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys: Semimanufactures	286	408	United States 154; El Salvador 125; Italy 73.
Copper and alloys:			
Metal, semimanufactures	156	135	United States 86.
Sulfate	27	20	United States 18.
Iron and steel:			
Iron ore	2	---	
Scrap	755	---	
Pig iron	10	(1)	
Ingots and equivalent primary forms	95	33	West Germany 13; United States 10.
Semimanufactures	32,016	42,506	Belgium-Luxembourg 13,455; Japan 12,089; United States 4,303.
Lead and lead alloys:			
Unwrought	92	134	Canada 50; United States 30; Mexico 25.
Semimanufactures	4	8	United States 5.
Silver and alloys, all forms troy ounces	8,359	7,234	Mainly from United States.
Tin and alloys:			
Unwrought long tons	18	15	United Kingdom 12.
Semimanufactures do	5	3	West Germany 1; Denmark 1.
Zinc and alloys:			
Unwrought	713	1,029	Japan 450; Belgium-Luxembourg 251.
Semimanufactures	39	724	Costa Rica 575; Netherlands 76.
Other nonferrous minerals, metals, and scrap	5	(1)	
Nonmetals:			
Abrasives, natural	3	2	All from United States.
Asbestos	56	---	
Cement:			
Asbestos	3,510	2,303	Costa Rica 729; Italy 607; El Salvador 356.
Portland	12,474	10,762	Costa Rica 4,726; Honduras 1,767.
Clay and clay products:			
Common and refractory	252	257	Mainly from United States.
Common brick	2	68	Mexico 30; Costa Rica 29.
Refractory brick	247	186	United States 59; Costa Rica 53.
Fertilizers:			
Nitrogenous	4,322	22,911	Italy 5,446; Netherlands 4,618; Belgium-Luxembourg 3,830.
Phosphatic	4,620	11,479	United States 10,314.
Potassic	771	4,453	United States 4,382.
Mixed	16,286	4,935	United States 3,560; Italy 907.
Graphite	(1)	2	Mainly from United Kingdom.
Lime, all types	1,747	189	United States 163.
Salt	1,970	2,690	Honduras 2,287.
Sand, gravel, and crushed rock	12	4	Mainly from United States.
Sodium carbonate	317	240	Do.
Sodium hydroxide	2,071	1,719	United Kingdom 918; United States 321.
Stone:			
Dimension	1,331	58	Guatemala 31; Italy 12.
Industrial	25	112	Mainly from United States.
Sulfur	280	51	Do.
Mineral fuels:			
Coal	14	16	All from United States.
Coke	42	77	West Germany 57; United States 20.
Mineral tars and products	5,193	4,952	Venezuela 4,386; Costa Rica 360.
Natural gas liquids	37	NA	
Petroleum:			
Crude and partially refined thousand 42-gallon barrels	1,884	1,260	Venezuela 1,070; Netherlands Antilles 190.
Refinery products:			
Gasoline do	124	97	Netherlands Antilles 77.
Kerosine do	82	15	Netherlands Antilles 12.
Fuel oil, all types do	63	54	United States 32; Netherlands Antilles 21.
Lubricants including greases	6,388	5,887	United States 5,200; United Kingdom 17.
Paraffin, vaseline, and waxes	1,125	241	United States 145.
Asphalt and coke	3,945	NA	

NA Not available.

[1] Less than ½ unit.

Source: Anuario Estadístico Centroamericano de Comercio Exterior 1965. SIECA. 795 pp.

Niger

Table 1.—Niger: Production of mineral commodities

Commodity[1]	1962	1963	1964	1965	1966
Metals: Tin:					
Concentrate............long tons..	58	81	74	77	85
Metal content of concentrate.do....	41	54	48	[r] 53	[e] 60
Nonmetals:					
Building stone.......cubic meters..	2,589	757	455	604	NA
Cement...............long tons..	NA	NA	NA	NA	15,000
Clay, common brick.........do....	---	300	---	---	---
Gravel......................do....	986	1,534	4,822	3,020	NA
Gypsum..............metric tons..	---	---	---	1,500	[e] 1,500
Sand...............cubic meters..	9,862	6,808	4,207	11,663	NA

[e] Estimate. [r] Revised. NA Not available.

[1] In addition, salt is produced at several localities, but quantitative data are not available.

Table 2.—Niger: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]	Principal destinations, 1965
Metals:			
Iron and steel:			
Semimanufactures..............	---	13	Mali 5; Ivory Coast 5; France 4.
Tin ore and concentrate long tons.	61	66	All to Nigeria.
Nonmetals:			
Fertilizer materials:			
Natural........................	---	46	Do.
Other crude minerals................	106	1	Do.
Mineral fuels:			
Petroleum refinery products..........	1,369	1,989	West Indies 566; Venezuela 478; Algeria 238.

[1] Source: Statistical Office of the European Communities, No. 44, 1965, pp. 21–41; No. 9, 1966, 185–205.

Table 3.—Niger: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]	Principal sources, 1965
Metals:[2]			
Aluminum	96	135	Ivory Coast 78; France 54.
Copper	10	16	All from France.
Iron and steel:			
Pig iron and ferroalloys	---	1	Do.
Semimanufactures	4,219	3,412	France 2,761; West Germany 526; Belgium-Luxembourg 68.
Lead	2	2	All from France.
Tin ... long tons	---	(3)	Do.
Nonferrous metals, ore and concentrate, unspecified.	39	---	
Nonmetals:			
Cement, lime, and other building materials.	13,861	13,291	France 4,728; Poland 2,174; Belgium-Luxembourg 1,508.
Clay construction materials	171	414	West Germany 179; France 166; Italy 50.
Fertilizer materials:			
Natural	37	---	
Manufactured	358	386	France 333; Senegal 26; Tunisia 15.
Stone, sand, and gravel	---	106	All from France.
Nonmetallic minerals, crude unspecified.	6,755	5,298	Senegal 3,532; U.A.R. (Egypt) 1,039; Belgium-Luxembourg 197.
Nonmetallic mineral manufactures	17	15	France 15.
Mineral fuels:			
Coal, coke, and briquets	---	---	
Gas, natural and manufactured	188	176	France 110; Spain 50; Ivory Coast 11.
Petroleum refinery products	31,013	31,127	Iraq 10,512; Netherland Antilles 7,136; Venezuela 4,764; West Indies 3,712; Algeria 3,326.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	25	---	

[1] Source: Statistical Office of the European Communities, No. 9, 1966, pp. 185–205.
[2] Includes unwrought and semimanufactures unless otherwise specified.
[3] Less than 1 unit.

Nigeria

Table 1.—Nigeria: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Columbite, concentrate	2,298	2,044	2,377	2,589	2,262
Gold ... troy ounces	384	316	244	80	61
Lead ore:					
Gross weight	---	---	---	931	2,102
Content	---	---	---	[e] 700	[e] 1,600
Monazite, concentrate	9	[r] 12	[r] 10	8	7
Tantalite, concentrate ... kilograms	17,242	15,240	10,160	13,168	12,192
Tin:					
Cassiterite, concentrate:					
Gross weight ... long tons	11,096	11,788	11,787	12,885	12,640
Tin content ... do	8,210	8,723	8,721	9,547	9,354
Metal, unwrought ... do	8,024	9,051	8,749	9,321	9,869
Tungsten concentrates, 60 percent WO_3 basis	(2)	---	2	2	1
Zircon, concentrate	[r] [3] 492	804	[3] 564	---	NA
Nonmetals:					
Cement ... thousand tons	484	526	663	983	1,002
Clay, kaolin ... do	5	15	[r] 3	[r] 26	20
Limestone ... do	725	770	996	1,312	1,098
Marble	---	---	---	1,137	1,520
Salt	331	280	557	904	NA
Mineral fuels:					
Coal ... thousand tons	634	[r] 577	699	740	640
Gas, natural:					
Gross ... million cubic feet	17,179	22,106	36,333	79,438	102,677
Marketed ... do	---	NA	2,800	3,395	NA
Petroleum:					
Crude ... thousand 42-gallon barrels	24,624	[r] 27,913	43,997	99,354	152,428
Refinery products:					
Gasoline ... do	---	---	---	284	154
Kerosine ... do	---	---	---	187	102
Distillate fuel oil ... do	---	---	---	341	142
Residual fuel oil ... do	---	---	---	467	194
Total ... do	---	---	---	1,279	592

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, lead and zinc concentrates and a few tons of tungsten and molybdenum ores are produced, but exact output data are not available.

[2] Less than ½ unit.

[3] U.S. imports.

Table 2.—Nigeria: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	---	49	All to West Germany.
Metal, all forms	11	3	All to Netherlands.
Copper:			
Ore, concentrate and matte	61	49	West Germany 32; Belgium-Luxembourg 17.
Metal and alloys, all forms	NA	1	Italy 0.5; United Kingdom 0.5.
Iron and steel:			
Scrap	10,928	6,208	Italy 6,096; United Kingdom 76; Ivory Coast 14.
Semimanufactures	41	5	All to West Germany.
Lead, ore and concentrate	953	[r] 1,575	Netherlands 938; West Germany 332; Belgium-Luxembourg 323.
Tin:			
Ore and concentrate long tons	25	9	All to United Kingdom.
Metal and alloys, unwrought do	10,557	10,575	United Kingdom 7,415; United States 1,655; Netherlands 1,140.
Zinc:			
Ore and concentrate	---	1,905	West Germany 1,526; Netherlands 360; Denmark 18.
Metal and alloys, worked	NA	13	Belgium-Luxembourg 9; Netherlands 4.
Other nonferrous ore and concentrates [1]	3,487	3,675	United States 1,830; United Kingdom 874; Japan 73.
Scrap, nonferrous	3,078	2,858	West Germany 984; Netherlands 659; United Kingdom 243.
Nonmetals:			
Cement	1,872	191	Niger 180; Italy 10.
Construction materials:			
Stone dimension	201	NA	
Stone, sand and gravel	---	1,585	All to Italy.
Other	77	NA	
Fertilizer materials:			
Natural	384	263	Ghana 145; Togo 60; Ivory Coast 20.
Manufactured	264	2	All to Cameroon.
Salt	---	18	Ghana 10; Dahomey 8.
Other crude minerals	4	[r] 267	United States 254.
Mineral fuels:			
Briquets	[r] 38,127	20,491	All to Ghana.
Coal	8,021	213	Niger 203; Togo 10.
Coke and semicoke	14,529	15,277	Ghana 15,252; United Kingdom 25.
Petroleum [2], crude thousand 42-gallon barrels	43,432	[r] 98,656	United Kingdom 53,070; West Germany 15,525; United States 6,751.
Kerosene 42-gallon barrels	---	1,358	All to ships stores.
Residual fuel oil do	---	4,276	Ships stores 4,201; Dahomey 75.
Lubricating oil do	---	13	All to Liberia.
Asphalt do	---	60	All to Dahomey.

[e] Estimate. [r] Revised. NA Not available.

[1] Includes titanium, tantalum, zirconium, vanadium, molybdenum ores.

[2] In addition, estimated reexports and bunker loadings of refined products were 1.5 million barrels annually during 1963–64 and 1.1 million barrels in 1965.

Principal source: Statistical Office of the United Nations.

Table 3.—Nigeria: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Unwrought	2,734	821	Canada 433; Finland 346; United Kingdom 38.
Semimanufactures	3,692	1,620	United Kingdom 854; Switzerland 265; Belgium-Luxembourg 147.
Copper and alloys:			
Unwrought	39	35	United Kingdom 30; Belgium-Luxembourg 2; West Germany 2.
Semimanufactures	1,854	1,654	United Kingdom 1,008; Japan 179; Norway 72.
Iron and steel:			
Ore and concentrate	81	9	All from Niger.
Pig iron and ferroalloys	771	1,139	United Kingdom 942; Belgium-Luxembourg 115; West Germany 59; Norway 30; Italy 27.
Ingots and other primary forms	1,716	1,077	United Kingdom 676; Congo (Kinshasa) 183; France 67; West Germany 45; Norway 37.
Semimanufactures:			
Bars and rods	75,830	60,056	West Germany 22,406; Belgium-Luxembourg 12,147; United Kingdom 9,322; Poland 7,397.
Angles, shapes, and sections	20,376	27,439	United Kingdom 11,579; Belgium-Luxembourg 7,151; Japan 3,866; West Germany 2,688; France 1,226.
Plates, sheets, hoop, and strip.	75,540	60,971	Japan 23,448; United Kingdom 17,746; Netherlands 4,998; Belgium-Luxembourg 4,500; West Germany 4,441; France 3,948.
Rails and accessories	24,331	[r] 6,678	United Kingdom 6,235; Sweden 408.
Tubes, pipes, and fittings	89,599	107,702	United States 38,910; France 23,380; United Kingdom 15,682; Italy 10,106.
Other	4,438	2,224	United Kingdom 1,461; Japan 228; Italy 139.
Total	290,114	265,070	
Lead and alloys, ingots and semimanufactures.	1,141	527	United Kingdom 277; France 109; Belgium-Luxembourg 55.
Nickel and alloys, semimanufactures	---	417	Japan 357; Netherlands 22; United Kingdom 20.
Platinum-group metals, unworked troy ounces	[r] 2,347	9,976	United Kingdom 5,736; West Germany 2,436; India 1,775.
Silver, unworked	22,280	[r] 20,702	United Kingdom 18,285; West Germany 2,117; Japan 300.
Tin and alloys, ingots and semimanufactures long tons	233	140	United Kingdom 83; United States 17; Italy 17.
Zinc and alloys, ingots and semimanufactures.	965	1,979	Congo (Kinshasa) 1,193; U.S.S.R. 211; Belgium-Luxembourg 206
Metals not elsewhere specified:			
Ores and concentrates:			
Platinum and/or silver ores troy ounces	3,048	---	
Other	37	120	United Kingdom 84; Niger 26; Hong Kong 6.
Oxides, mainly for paint	170	169	United Kingdom 151; Spain 9; Norway 5.
Scrap, nonferrous	8	1,283	Canada 765; Congo (Kinshasa) 263; Japan 153; United Kingdom 79; Niger 18.
Nonferrous base metals	---	29	France 10; United Kingdom 6; Netherlands 2.
Nonmetals:			
Abrasives, natural	186	121	India 40; United States 25; France 14.
Asbestos, crude and partly worked	1,669	3,804	Federation Rhodesia-Nyasaland 3,143; Canada 204; Italy 162.
Cement thousand tons	181	174	Norway 74; United Kingdom 18; West Germany 18; Italy 17; Yugoslavia 15; Belgium-Luxembourg 15.
Clay construction materials do	7	7	United Kingdom 3; West Germany 2.
Fertilizer materials:			
Crude, all types	797	1,216	West Germany 410; United Kingdom 180; Spain 122; Unspecified 406.
Manufactured:			
Nitrogenous	8,963	14,835	West Germany 4,773; United Kingdom 3,426; Netherlands 2,416.

See footnotes at end of table.

Table 3.—Nigeria: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Fertilizer Materials—Continued			
Phosphatic	13,231	10,660	United Kingdom 5,897; Ireland 2,268; Netherlands 1,201.
Potassic	848	3,274	West Germany 2,767; Netherlands 299; France 116.
Not elsewhere specified	5,366	6,699	Hungary 4,001; United Kingdom 1,139; United States 747; West Germany 629.
Ammonia	198	365	United Kingdom 165; Netherlands 72; France 49; Italy 37.
Total	28,606	35,833	
Lime	5,537	5,427	United Kingdom 5,324; Israel 96; West Germany 5.
Mica, crude and partly worked	15	253	United States 145; United Kingdom 93; Israel 13.
Salt thousand tons	134	130	United Kingdom 79; East Germany 19; West Germany 17.
Sodium and potassium compounds, not elsewhere specified; caustic soda.	9,186	8,996	United Kingdom 3,850; Italy 1,980; West Germany 1,382.
Stone, sand and gravel:			
Dimension stone, worked thousand tons	41	5	Italy 4.6.
Crushed rock, sand, and gravel do	26	38	France 28; United Kingdom 3; Italy 2.
Grinding stones and wheels	238	295	West Germany 159; United Kingdom 52; Italy 31.
Sulfur in all forms:			
Pyrite, unroasted	17	193	France 113; United Kingdom 47; Italy 25.
Nonmetals, not elsewhere specified thousand tons	49	2	Belgium-Luxembourg 0.5; Italy 0.3; United States 0.3.
Mineral fuels:[1]			
Coal, coke, and briquets	4,354	2,660	United Kingdom 2,541; Netherlands 109; West Germany 10.
Petroleum, crude	---	213	All from United Kingdom.
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	2,706	[r]2,684	Netherlands Antilles 749; United States 436; Venezuela 261; Italy 206; Netherlands 94.
Kerosine do	1,385	[r]1,110	Netherlands Antilles 417; United States 142; Venezuela 111; Iraq 92.
Jet fuel do	532	[r]534	Netherlands Antilles 98; Italy 97; Other America 90; Venezuela 53.
Distillate fuel oil do	2,415	[r]2,658	Netherlands Antilles 607; United States 385; Italy 347; Venezuela 324.
Residual fuel oil do	1,370	[r]1,725	Aden 613; Netherlands Antilles 423; Spain 396; Netherlands 129.
Lubricants do	183	[r]390	United Kingdom 165; United States 67; West Germany 42; Netherlands Antilles 30.
Asphalt and bitumen do	84	[r]173	Netherlands Antilles 143; Netherlands 13; United Kingdom 5.
Other do	[r]8	[r]6	West Germany 3; United States 2.
Total do	8,683	9,280	
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	859	1,344	United Kingdom 925; West Germany 152; United States 140.

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[r] Revised.

[1] Imports of manufactured gas and minor quantities of petroleum coke and natural gas are reported in terms of value: $338,000 in 1964, and $491,000 in 1965.

Norway

Table 1.—Norway: Production of mineral commodities
(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Alumina	[e] 13,000	[e] 13,000	14,000	16,000	15,000
Unwrought	205,878	216,100	[r] 261,019	[r] 275,607	330,170
Semimanufactures	16,511	17,196	[r] 19,446	19,200	NA
Cadmium	115	110	115	78	73
Cobalt	600	625	568	823	800
Columbium concentrate (35 to 42 percent columbium)	[r] 349	[r] 355	[r] 185	150	---
Copper:					
Ashes and residues	NA	331	[e] 350	[e] 350	NA
Concentrate (15 to 27 percent copper)	28,527	29,499	30,818	31,079	29,578
Metal content	6,764	7,354	7,758	[r] 15,036	7,398
Content of cupriferous pyrite	8,771	6,911	7,215		7,067
Smelter	19,153	18,197	14,800	17,500	14,340
Semimanufactures [1]	13,257	13,657	15,074	14,688	[e] 15,000
Iron and steel:					
Iron ore (mostly 62 to 65 percent iron) thousand tons	[r] 1,950	1,999	2,123	[r] 2,464	2,359
Pig iron	395,823	407,022	436,712	[r] 524,342	631,075
Ferroalloys:					
Ferrosilicon (45 percent silicon)	171,621	158,220	224,516	[r] 278,102	225,564
Other	156,321	183,613	232,347	[r] 287,723	282,252
Crude Steel	487,779	541,665	614,176	[r] 675,812	714,755
Semimanufactures, including wire	450,477	495,558	561,520	601,600	NA
Lead:					
Concentrates (51 to 63 percent lead)	5,241	5,778	6,968	[r] 6,879	7,486
Metal content	2,860	2,991	[r] 3,579	4,130	3,820
Secondary, including alloys and scrap	2,040	1,434	[e] 1,200	1,313	1,390
Magnesium, unwrought	14,582	18,081	[r] 20,935	26,430	28,330
Metalloids:					
Selenium	13	15	15	15	15
Silicon	6,900	NA	NA	10,300	12,890
Molybdenum (content of concentrate)	261	201	231	226	[e] 220
Nickel metal	29,202	26,421	30,110	31,835	32,337
Precious metals (value, thousand dollars)	$4,401	$3,788	NA	NA	NA
Tin, secondary, including alloys long tons	579	455	560	551	NA
Titanium:					
Ilmenite concentrate (43 to 45 percent titanium dioxide)	251,098	242,255	[r] 272,023	[r] 282,150	369,720
Dioxide	---	---	13,000	14,000	NA
Zinc:					
Ashes and residues	352	327	689	18,952	NA
Concentrate (mostly 50 to 55 percent zinc)	22,958	25,219	23,865	[r] 24,946	25,087
Metal content	11,846	13,048	[r] 12,493	[r] 12,500	14,330
Smelter	[r] 44,975	[r] 46,566	48,357	[r] 52,576	50,890
Oxides	2,283	2,000	1,536	1,135	[e] 2,000
Other ashes and residues, not elsewhere specified (value, thousand dollars)	$852	$836	$1,057	$727	NA
Nonmetals:					
Cement thousand tons	1,412	1,438	1,541	1,603	1,718
Dolomite do	160	206	220	227	268
Feldspar	[r] 55,000	66,000	66,300	69,000	[e] 70,000
Fertilizer materials:					
Ammonia (nitrogen content) thousand tons	302	307	355	382	388
Superphosphate do	49	46	47	50	55
Calcium nitrate do	1,172	1,180	[2] 1,250	[2] 1,238	[2] 1,271
Compound fertilizers do	244	260	[2] 322	[2] 366	[2] 486
Graphite	6,552	7,628	7,242	[r] 7,700	[e] 7,700
Lime	92,379	122,391	[r] 115,227	[r] 233,994	[e] 235,000
Mica	3,200	3,600	4,000	3,000	3,000
Olivine	50,900	56,900	67,360	87,300	102,000

See footnotes at end of table.

Table 1.—Norway: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Pyrite:					
Cupriferous (1 to 2 percent copper)	809,868	397,165	[r] 719,402	[r] 708,871	673,458
Noncupriferous (42 to 50 percent sulfur)		324,281			
Sulfur content of total pyrite	361,163	328,237	[r] 321,807	340,000	[e] 325,000
Quartz	367,000	414,062	[r] 450,373	[r] 528,977	[e] 480,000
Stone, sand and gravel:					
Dimension stone:					
Granite	10,599	6,422	6,644	5,877	[e] 6,800
Marble	2,081	3,011	1,688	750	[e] 2,800
Syenite ("labrador")	30,159	33,816	39,728	32,289	[e] 44,000
Slate..thousand square meters	185	294	239	206	[e] 300
Worked, all types (value, thousand dollars)	$3,837	$4,307	$5,051	$5,765	NA
Limestone..thousand tons	3,514	3,760	4,000	4,100	4,000
Nepheline syenite	19,940	23,000	31,000	41,000	57,000
Sand and gravel:					
Screened thousand cubic meters	1,794	1,590	[r] 1,858	2,632	NA
Other, including crushed stone thousand cubic meters	2,913	3,734	4,287	4,833	NA
Sulfur, elemental (recovered)	[r] 45,900	---	---	---	---
Sulfuric acid, 100 percent	89,929	103,628	109,627	[r] 124,242	134,007
Talc and soapstone	159,469	147,873	[r] 155,628	[r] 133,471	NA
Mineral fuels:					
Coal (from Spitzbergen)	472,848	382,398	442,074	[r] 425,625	410,365
Coke:					
Coke oven..thousand tons	---	---	108	[r] 260	[e] 200
Gasworks..do	39	36	23	15	NA
Gas (from gasworks) thousand cubic meters	38,392	34,647	31,641	31,867	33,403
Peat:					
For fuel..cubic meters	490,000	349,000	350,000	NA	50,000
For agricultural use..do	121,000	120,000	140,000	150,000	150,000
Petroleum refinery products: [3]					
Motor gasoline..thousand tons	318	285	368	407	440
Kerosine and jet fuel..do	18	8	7	[4] 10	[4] 13
Distillate fuel oil..do	948	804	869	1,009	1,052
Residual fuel oil..do	980	1,280	1,517	1,251	1,348
Liquefied petroleum gas..do	17	15	18	24	NA
Other..do	90	94	107	96	118
Total refinery products	2,371	2,486	2,886	2,797	2,971
Total crude oil throughput	2,440	2,572	3,028	2,889	3,171

[e] Estimate. [r] Revised. NA Not available.

[1] Not including pipe fittings.

[2] Production of Norsk Hydro.

[3] Source: Organization for Economic Cooperation and Development (OECD) (Paris).

[4] Aviation fuel.

Table 2.—Norway: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum: [1]			
Scrap	255	628	United Kingdom 391.
Unwrought	264,802	242,550	United States 82,982; United Kingdom 63,920; West Germany 35,565; Sweden 13,823; Italy 12,992.
Semimanufactures	4,669	5,074	Denmark 1,542; Sweden 1,456; Finland 732.
Beryllium, metal, all forms	1	NA	NA.
Cadmium, metal excluding scrap	73	99	NA.
Chromium, metal excluding scrap	1	NA	NA.

See footnotes at end of table.

Table 2.—Norway: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Cobalt, metal excluding scrap	568	886	NA.
Columbium ore	313	168	NA.
Copper:			
Ore	14,317	11,548	Sweden 6,211; West Germany 5,337.
Cuprous oxide	1,308	1,589	NA.
Matte	---	---	NA.
Scrap [1]	2,300	2,030	West Germany 1,363; Sweden 218.
Unwrought [1]	16,152	20,000	West Germany 13,017.
Semimanufactures	2,000	3,002	Sweden 1,910.
Gold:			
Unwrought and semimanufactures troy ounces.[3]	1,061	NA	NA.
Scrap, [1] residues, etc. kilograms	1,046	NA	NA.
Iron and steel:			
Iron ore thousand tons	1,553	1,374	NA.
Roasted pyrite	81,246	73,284	West Germany 48,991; United Kingdom 11,713; Denmark 5,240.
Scrap	8,568	11,245	West Germany 8,864; Sweden 1,326.
Pig iron [4]	124,175	137,958	United Kingdom 66,035; West Germany 23,363.
Ferroalloys	444,493	498,456	United Kingdom 154,285; West Germany 142,423.
Ingots and other primary forms	105,680	106,139	Netherlands 47,104; Denmark 34,328.
Semimanufactures:			
Bars, rods, sections	148,260	138,551	United Kingdom 34,511; Sweden 30,213; West Germany 20,354.
Sheets and plates	75,586	64,918	Sweden 30,741; United Kingdom 20,382.
Hoop and strip	347	223	Sweden 83; Netherlands 51.
Rails and accessories	1,609	2,193	West Germany 1,119.
Wire	3,152	3,180	Poland 682; United States 639; Portugal 581.
Tubular products	25,813	25,558	Sweden 10,246; East Germany 2,883; Denmark 2,775.
Castings and forgings	7,648	8,799	Sweden 7,772.
Total semimanufactures	262,415	243,422	
Lead:			
Ore	7,456	5,903	Belgium-Luxembourg 3,467; United Kingdom 2,436.
Oxide	14	NA	NA.
Scrap	3,350	2,945	Denmark 1,771; Sweden 333.
Unwrought [1]	386	360	Sweden 130; Iceland 100.
Semimanufactures [1]	343	274	Sweden 274.
Magnesium:			
Scrap	131	95	West Germany 70.
Unwrought	23,113	24,842	NA.
Semimanufactures	108	11	NA.
Manganese ore	4,369	8,369	United Kingdom 6,036; United States 2,333.
Molybdenum:			
Ore	406	424	NA.
Metal, all forms	1	NA	NA.
Nickel:			
Matte, speiss, etc	---	---	None.
Scrap	152	65	United Kingdom 32.
Unwrought	33,865	31,238	United States 11,331; United Kingdom 5,242; Sweden 5,130.
Semimanufactures	506	270	Yugoslavia 74; Sweden 71; Italy 64.
Selenium value, thousand dollars	$42	$79	NA.
Silicon	6,664	8,038	NA.
Silver and platinum-group metals:			
Silver, unwrought and partly worked troy ounces [3]	8,231	NA	NA.
Platinum and platinum group metals, partly worked troy ounces. [3]	18,583	18,004	NA.
Sweepings, residues, scrap, etc. kilograms	44,068	71,264	West Germany 38,350; United Kingdom 25,662.
Tin: [1]			
Scrap long tons	42	50	Denmark 39.
Unwrought do	293	237	NA.
Semimanufactures do	4	3	NA.

See footnotes at end of table.

Table 2.—Norway: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Titanium ore (ilmenite concentrate)	279,453	324,239	NA.
Zinc:			
Ore	14,628	22,055	West Germany 13,356; Poland 3,701.
Oxide	304	198	Sweden 110.
Scrap	593	811	United Kingdom 415; Netherlands 154.
Unwrought [1]	39,972	37,785	Sweden 16,555; West Germany 10,552.
Semimanufactures [1]	1,522	1,471	West Germany 334; Sweden 325; Netherlands 283.
Other metals, not elsewhere specified:			
Ores and concentrates	3	3	NA.
Nonferrous ashes and residues	12,812	21,414	Sweden 8,943; West Germany 8,437.
Metallic oxides. [7] value, thousand dollars	$12	$19	NA.
Scrap	105	NA	NA.
Other chemical elements, not elsewhere specified. [8] value, thousand dollars	$181	$64	NA.
Nonmetals:			
Abrasives	1,112	1,153	Poland 289; Sweden 219; Rumania 152.
Asbestos (manufactures, nonfriction)	196	NA	NA.
Cement	333,115	327,150	United States 177,779; Nigoria 71,871; Ivory Coast 25,330.
Clay and clay products:			
Crude, all types	121	89	NA.
Construction materials (brick, tile, etc):			
Refractory	10,486	11,184	West Germany 8,997.
Nonrefractory bricks thousand units	801	460	Sweden 250; United Kingdom 159.
Nonrefractory ceramic piping	118	NA	NA.
Dolomite	77,530	77,774	Sweden 20,914; West Germany 13,107; United Kingdom 9,580.
Fertilizer materials:			
Manufactured:			
Nitrogenous thousand tons	1,334	1,438	NA.
Phosphatic do	18	24	Denmark 19.
Other do	46	186	NA.
Ammonia, anhydrous	14,402	33,644	NA.
Sodium and potassium compounds, not elsewhere specified: Caustic soda.	13,255	6,910	Denmark 3,508; Sweden 3,402.
Feldspar	98,342	90,960	United Kingdom 43,039; West Germany 13,520; Netherlands 10,845.
Graphite	7,508	8,332	United States 3,727; West Germany 1,948; United Kingdom 1,450.
Gypsum	27	---	
Lime	85	NA	NA.
Limestone, for flux, cement. etc	20,864	23,073	Sweden 19,760; Denmark 2,207.
Mica:			
Crude, including splittings and waste.	4,009	4,151	France 931; West Germany 915; Sweden 645; Netherlands 292.
Manufactures	3	NA	NA.
Pyrite	627,661	583,286	West Germany 454,466; Sweden 67,636.
Quartz and quartzite	19,266	26,463	West Germany 10,595; United Kingdom 6,922; Sweden 6,708.
Salt	4,696	3,958	Iceland 2,512; Sweden 1,219.
Stone, sand and gravel:			
Dimension stone:			
Granite, gneiss, syenite, etc	44,555	47,475	France 14,153; West Germany 11,275.
Marble and other calcareous	785	1,353	Denmark 389; West Germany 368.
Slate	42,913	40,671	Netherlands 17,584; West Germany 8,815.
Worked, all types	293	770	Denmark 438.
Sand	407	1,492	NA.
Gravel and other crushed stone	114,174	334,091	West Germany 247,327; United Kingdom 35,855.
Sulfur:			
Elemental, crude	432	---	
Dioxide	3,542	2,874	Sweden 2,734.
Sulfuric acid; oleum	12,864	19,329	Sweden 15,988.
Talc and steatite	74,762	69,596	United Kingdom 17,247; Denmark 11,184; West Germany 10,433; Sweden 10,106.
Other inorganic acids, not elsewhere specified.	13,465	13,234	NA.
Other mineral materials	893	1,144	Netherlands.

See footnotes at end of table.

Table 2.—Norway: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Mineral fuels:			
Asphalt and bitumen:			
Natural, crude	189	NA	NA.
Manufactures	1	NA	NA.
Coal	84,299	137,564	West Germany 136,927.
Coal derivatives	6,960	17,661	West Germany 7,085.
Coke, including briquets	3,904	99,610	Rumania 29,575; Denmark 24,704.
Petroleum refinery products:			
Domestic consumption:			
Gasoline	230,647	146,503	NA.
Kerosine, including jet fuel and white spirit.	5,897	6,029	NA.
Distillate fuel oil	493,287	556,497	NA.
Residual fuel oil	709,355	514,566	NA.
Lubricants, including grease	21,337	21,286	Denmark 7,186; Sweden 6,591; Belgium-Luxembourg 5,579.
Petroleum gases value, thousand dollars	$324	$424	NA.
Bitumen and other	805	499	Denmark 127.
International bunkers:			
Distillate fuel oil	153,800	132,500	XX.
Residual fuel oil	301,200	253,500	XX.

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[r] Revised. NA Not available. XX Not applicable.

[1] Including alloys.

[2] As reported by country of destination.

[3] Calculated from quantities reported in kilograms.

[4] Includes cast iron, spiegeleisen, and powder.

[5] Less than ½ unit.

[6] Including compounds, mixtures, and stable isotopes.

[7] Including mercury; metalloids; alkali, alkaline-earth and rare-earth metals; phosphorus, arsenic; nitrogen, etc.

[8] Including barium, strontium, and magnesium.

Table 3.—Norway: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	30,034	29,254	All from Greece.
Oxide and hydroxide[1]	523,940	540,328	Jamaica 223,111; United States 146,798.
Scrap	57	NA	NA.
Unwrought[2]	11,838	9,868	U.S.S.R. 7,410.
Semimanufactures[2]	9,907	7,038	Belgium-Luxembourg 1,943; Sweden 1,673; United Kingdom 1,076.
Antimony	95	102	NA.
Arsenic trioxide	89	NA	NA.
Chromium:			
Ore	109,388	76,593	Turkey 32,146; Rhodesia 28,885.
Oxides	122	138	West Germany 94.
Cobalt:			
Oxide and hydroxide	2	NA	NA.
Metal, except scrap	17	12	NA.
Copper:[2]			
Oxide	22	NA	NA.
Scrap	67	160	All from Sweden.
Unwrought	5,283	4,939	United States 3,434; United Kingdom 1,188.
Semimanufactures	20,327	21,713	Canada 8,446; Sweden 6,059; United Kingdom 1,786.
Gold:[3]			
Unwrought troy ounces	24,499	NA	NA.
Semimanufactures do	11,703		
Rolled gold (on silver) do	96		
Scrap, residues, etc.[2] do	---	---	
Iron and steel:			
Iron ore	19,099	15,770	Sweden 15,768.
Slag, dross, etc., from iron and steel manufacture.	33,331	35,802	Sweden 18,192; United Kingdom 6,419.
Scrap	27,316	61,441	United Kingdom 34,225; Denmark 19,161.
Pig iron and ferroalloys	11,149	15,674	Sweden 7,611; West Germany 2,786.
Ingots and other primary forms	79,135	82,372	Netherlands 60,287.
Semimanufactures:			
Bars, rods, sections	196,659	218,856	France 62,445; West Germany 47,332; Belgium-Luxembourg 45,509.
Plates and sheets	388,008	410,653	United Kingdom 88,253; West Germany 70,841; Sweden 64,066.
Hoop and strip	66,489	65,696	Belgium-Luxembourg 43,223.
Rails and accessories	22,299	19,972	Sweden 10,640; United Kingdom 4,256.
Wire	8,709	10,524	Belgium-Luxembourg 5,194; United Kingdom 1,458.
Tubular products	51,732	54,929	West Germany 18,822; United Kingdom 12,240; Sweden 9,288.
Castings and forgings	112	247	Sweden 150.
Total semimanufactures	734,008	780,877	
Iron oxide and hydroxide	1,305	1,564	West Germany 1,248.
Lead:[2]			
Oxides	830	895	United Kingdom 516; West Germany 303.
Scrap	187	154	Sweden 152.
Unwrought	10,060	9,487	South Africa 2,385; Denmark 1,813; United Kingdom 1,597.
Semimanufactures	1,114	1,292	Belgium-Luxembourg 325; Netherlands 306; West Germany 237.
Magnesium and beryllium	47	143	United States 113.
Manganese:			
Ore	360,003	510,111	Ghana 211,432; British Guiana 70,181.
Oxides	195	229	Netherlands 116; Japan 93.
Mercury 76-pound flasks	1,015	667	NA.
Molybdenum	1	1	NA.
Nickel:			
Matte	50,811	60,719	Canada 60,709.
Scrap	1,419	2,771	United States 1,938.
Unwrought[2]	62	68	United Kingdom 65.
Semimanufactures, including anodes.[2]	267	247	United Kingdom 79; Sweden 75; West Germany 64.
Silver and platinum-group metals:[3]			
Silver, unwrought or partly worked thousand troy ounces	2,835	3,616	West Germany 1,817; United Kingdom 1,729.
Platinum and platinum-group metals thousand troy ounces	1,961	NA	NA.
Sweepings, scrap, residues[2] kilograms	10	NA	NA.

See footnotes at end of table.

Table 3.—Norway: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Tin:[2]			
Oxides long tons	2	NA	NA.
Scrap do	51	19	All from Sweden.
Unwrought do	536	597	NA.
Semimanufactures do	301	296	NA.
Titanium:			
Ore	133	210	NA.
Dioxide	5,764	9,137	West Germany 5,542; United States 3,400.
Tungsten, wire	1	3	United Kingdom 2.
Uranium[2] kilograms	1,695	71	United States 57.
Other radioactive material value, thousand dollars	$205	NA	NA.
Zinc:			
Ore	78,728	103,150	Sweden 77,962; Australia 14,147.
Scrap	786	1,085	Sweden 536; France 401.
Unwrought[2]	2,274	5,404	U.S.S.R. 5,080.
Semimanufactures[2]	2,452	1,977	France 800; Belgium-Luxembourg 566.
Oxide	577	918	Poland 630; Sweden 192.
Miscellaneous materials, not elsewhere specified:			
Ores of nonferrous metals[4]	122	NA	NA.
Metalliferous ashes and residues	270	230	All from Sweden.
Oxides, of strontium, barium, magnesium.	874	175	United Kingdom 40.
Metalloids, not elsewhere specified	6	18	NA.
Alkali, alkaline-earth and rate-earth metals.	5	NA	NA.
Pyrophoric alloys	2	3	United Kingdom.
Other metals, including semimanufactures.	711	236	NA.
Nonmetals:			
Abrasives:			
Natural (emery, corundum, pumice, etc.).	350	338	West Germany 122.
Artificial corundum	709	619	NA.
Grinding stones	550	122,507	West Germany 122,088.
Asbestos:			
Crude and fabricated	7,434	5,099	U.S.S.R. 1,500; South Africa 1,477; Rhodesia 1,021.
Asbestos-cement manufactures	13,440	13,060	Denmark 4,847; Belgium-Luxembourg 3,827; West Germany 2,099.
Barite, including witherite	541	461	NA.
Borates, natural	600	1,025	All from the United States.
Boric oxide and boric acid	741	616	France 352; Italy 110.
Cement	8,360	52,896	Sweden 27,305; Finland 10,691.
Chalk	5,709	6,036	France 3,281; Denmark 888; Sweden 886.
Clay and clay products:			
Fuller's earth	2,815	1,910	NA.
Kaolin	70,702	63,721	NA.
Refractory and other clays	31,516	34,315	NA.
Construction materials (bricks, tiles, etc.):			
Refractory	17,971	22,679	Sweden 8,544; Denmark 5,051; United Kingdom 3,604.
Ordinary bricks thousand units	9,993	10,256	Denmark 9,295; Sweden 558.
Other nonrefractory value, thousand dollars	$2,329	$2,453	NA.
Cryolite and chiolite, natural	2,655	4,294	Denmark 4,294.
Diamond and other precious and semiprecious stones:			
Industrial diamond[5] carats[3]	10,000	NA	NA.
Nonindustrial diamond, unset carats[3]	50,000	NA	NA.
Other, natural and synthetic stone[6] kilograms	204	NA	NA.
Diatomite and other siliceous earths	4,048	3,940	Denmark 2,259.
Dolomite	12,525	15,829	United Kingdom 13,245.
Earth pigments	602	498	West Germany 239.
Feldspar	622	483	NA.
Fertilizer:			
Raw materials:			
Phosphate rock	195,755	173,371	U.S.S.R. 119,298.
Sodium nitrate	---	11	NA.
Manufactured:			
Nitrogenous	419	10,591	Netherlands 6,175; France 4,002.

See footnotes at end of table.

Table 3.—Norway: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Fertilizer materials—Continued			
Phosphatic, including basic slag.	7,562	5,674	Belgium-Luxembourg 3,588; Sweden 1,752.
Potassic	120,794	121,670	Spain 75,048; West Germany 22,403.
Other	---	138,822	NA.
Ammonia, anhydrous	37,395	20,654	West Germany 17,391.
Flint	1,709	1,313	NA.
Fluorspar	1,888	3,144	United Kingdom 1,518; West Germany 628.
Graphite	248	284	West Germany 128; United Kingdom 115.
Gypsum, including calcined	47,282	60,758	France 11,025; Poland 46,819.
Hydrogen and rare gases value, thousand dollars	$13	$30	Netherlands $19.
Lime	18,573	15,851	Denmark 9,827; Sweden 4,849.
Limestone, for flux, cement, etc	115,518	174,416	United Kingdom 156,793.
Magnesite	7,766	3,957	Mainland China 1,786; United Kingdom 978.
Mica, including worked mica	3,740	6,516	NA.
Quartz and quartzite	98	NA	NA.
Salt	252,186	295,793	Netherlands 109,058; West Germany 53,542; Spain 38,593.
Sodium and potassium compounds, not elsewhere specified:			
Caustic soda	10,387	13,200	France 6,576; Netherlands 5,467.
Caustic potash	1,771	1,519	Sweden 1,037.
Stone, sand and gravel:			
Dimension stone:			
Crude and partly worked:			
Granite, gneiss, etc	745	514	Sweden 502.
Marble and other calcareous.	102	134	Italy 94.
Slate	508	536	Denmark 477.
Worked, all types	444	661	Sweden 480.
Crushed stone and gravel	2,685	2,765	NA.
Sand	100,900	127,504	Belgium-Luxembourg 80,620.
Sulfur:			
Crude	46,677	56,375	United States 39,981; France 11,160.
Purified	NA	1,638	United States 1,160.
Sulfuric acid, including oleum	1,537	3,650	United Kingdom 1,427; Sweden 1,401.
Talc and steatite	3,086	4,073	Mainland China 2,540; India 718.
Other nonmetallic mineral materials	29,168	31,487	NA.
Inorganic bases, not elsewhere specified	426	408	NA.
Mineral fuels:			
Asphalt and bitumen, natural [7]	2,357	2,093	NA.
Carbon black	2,310	2,449	United Kingdom 1,370; United States 438.
Coal	276,607	366,328	United States 160,346; United Kingdom 132,688.
Coal derivatives	20,473	17,648	NA.
Coke, from coal	766,961	680,752	United Kingdom 467,487; West Germany 79,457.
Lignite and peat, including briquets	193	1,298	Sweden 1,187.
Petroleum:			
Crude thousand tons	2,698	2,754	Venezuela 1,349; Saudi Arabia 727,079.
Petroleum products:			
Gasoline do	441	498	United Kingdom 155; West Germany 62; Bahrain 52.
Kerosine, including jet fuel do	215	223	Netherlands 102; United Kingdom 78.
Distillate fuel oil do	1,172	1,255	NA.
Residual oil fuel do	1,451	1,071	NA.
Lubricants, including grease do	47	48	United States 15; United Kingdom 15.
Bitumen and other do	247	294	NA.
Petroleum gases value, thousand dollars	$58	$77	France $25; Denmark $24; Sweden $24.

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[r] Revised. NA Not available.
[1] Not including artificial corundum.
[2] Including alloys.
[3] Calculated from quantities reported in kilograms.
[4] Including ores of zirconium, molybdenum, vanadium, and tantalum.
[5] Includes artificial diamond (5,000 carats in 1964).
[6] Including dust and powder.
[7] Including manufactured articles (380 tons in 1963 and 438 tons in 1964).

Pakistan

Table 1.—Pakistan: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony:					
Concentrates	107	[r] 15	160	119	NA
Metal content of concentrate [e]	[r] 68	[r] 8	82	61	NA
Chromite	21,474	14,536	[r] 13,503	[r] 14,490	27,147
Iron and steel:					
Iron ore [2]	---	68	4,824	23,429	[e] 5,000
Crude steel	[3] 10,706	[3] 11,590	12,169	NA	NA
Lead ore	114	73	22	NA	NA
Manganese ore	[r] 940	1,409	996	[e] 1,000	[e] 1,000
Nonmetals:					
Barite	2,870	[r] 4,919	12,007	[r] 8,836	[e] 8,000
Bentonite	290	432	290	NA	NA
Celestite	[r] 293	[r] 385	[r] 269	[r] 451	535
Cement [4] thousand tons	1,395	1,498	[r] 1,546	1,707	1,886
China clay	---	---	[r] 983	1,289	3,001
Dolomite	482	648	720	259	[e] 300
Feldspar	56	1,240	49	---	---
Fertilizer [5]	158,280	254,481	[e] 300,000	248,000	178,000
Fire clay	10,005	35,900	16,790	13,610	20,000
Fullers earth	8,708	12,800	7,000	11,828	5,435
Gypsum [6]	[r] 120,000	[r] 130,000	[r] 140,000	147,160	112,000
Limestone [7] thousand tons	1,156	1,418	1,900	1,850	2,256
Magnesite	[r] 305	[r] 878	617	523	[e] 500
Marble	2,259	7,289	9,736	7,328	9,596
Mica kilograms	---	726	4,318	6,858	---
Salt:					
Rock thousand tons	[r] 195	[r] 242	197	[r] 271	313
Other do	[r] 254	212	[r] 194	[r] 223	196
Silica sand	17,287	23,870	25,965	30,947	36,684
Sulfur	NA	NA	1,500	NA	NA
Talc (reported as soapstone)	1,120	1,870	[r] 2,559	[r] 2,844	3,283
Mineral fuels:					
Coal thousand tons	995	1,243	1,214	1,231	[e] 1,200
Fuel briquets [e] do	20	20	20	20	20
Natural gas [7] million cubic feet	42,076	49,459	59,100	67,000	76,000
Petroleum:					
Crude thousand 42-gallon barrels	[r] 3,338	[r] 3,514	[r] 3,743	[r] 3,943	2,502
Refinery products:					
Gasoline do	1,089	2,219	[e] 2,700	2,873	NA
Kerosine do	507	1,546	[e] 2,239	3,853	NA
Distillate fuel oil do	1,137	NA	[e] 3,800	5,440	NA
Residual fuel oil do	1,695	NA	[e] 4,000	7,680	NA
Lubricants do	63	NA	97	95	NA
Other do	494	NA	183	[8] 92	NA
Total do	4,985	NA	13,019	20,033	NA

[e] Estimate. [r] Revised. NA Not available.

[1] Except where otherwise noted, output is all from West Pakistan.

[2] Officially reported as iron ore, but consists of test lots obtained during exploration which were not used to recover iron.

[3] Includes East Pakistan as follows: Ingot steel: 1962–139, 1963–2,118.

[4] Includes East Pakistan as follows: 1959–44, 1960–70, 1961–96, 1962–90, 1963–77.

[5] Includes: Urea 131,169; superphosphate 5,324; and ammonium sulfate 41,511 in 1966.

[6] Revisions made from CENTO publications.

[7] Includes East Pakistan: marketed production.

[8] Includes bitumen only.

Panama

Table 1.—Panama: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals: [1]					
Aluminum extrusions, pipe, tubes, bars, etc.	---	45	360	338	[e] 630
Steel reinforcing rods and small shapes [2]	[e] 4,000	6,350	12,500	11,000	[e] 13,000
Nonmetals: [3]					
Asbestos cement	NA	[e] 545	409	978	[e] 700
Cement	122,406	141,713	125,178	165,640	149,817
Clay and shale	[e] 35,000	[e] 35,000	43,227	133,707	[4] 40,844
Limestone and siltstone, for cement	[e] 210,700	217,748	[e] 211,700	208,991	124,696
Salt	11,231	10,082	11,020	11,480	8,793
Mineral fuels: Petroleum refinery products:					
Motor gasoline ---- thousand 42-gallon barrels	1,192	2,241	2,047	2,445	2,920
Jet fuel ---- do	30	200	375	377	683
Kerosine ---- do	628	524	581	770	586
Distillate fuel oil ---- do	1,381	4,398	4,525	3,235	6,350
Residual fuel oil ---- do	3,119	6,368	6,714	6,378	8,699
Other ---- do	307	NA	367	3,225	574

[e] Estimate. NA Not available.
[1] Fabricated or processed from imported raw materials.
[2] Fiscal year ending Oct. 31.
[3] Panama also produces sand, gravel and crushed rock.
[4] For cement production only.

Table 2.—Panama: Exports and reexports of mineral commodities

(Metric tons)

Commodity	1963	1965	Principal destinations, 1965
Metals:			
Aluminum: worked or unworked	---	28	Mainly to Costa Rica.
Iron and steel: primary forms and semimanufactures	474	123	Mainly to Nicaragua.
Nonferrous scrap	1,104	1,236	West Germany 366; Spain 332.
Nonmetals:			
Cement	215	5,468	All to El Salvador.
Mineral fuels:			
Refinery products ---- thousand tons	1,425	1,159	Canal Zone 363; Canada 300; United States 258.

Note: Official trade figures for 1964 have not been published.

Source: Anuario Estadistico Centroamericano de Comercio Exterior–1965. SIECA. Oct. 12, 1966. 794 pp.

Table 3.—Panama: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1963	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Unwrought	109	514	All from Canada.
Semimanufactures	741	965	NA.
Copper and alloys:			
Sulfate	---	7	Mainly from United States.
Semimanufactures	189	219	United States 117; Canada 39.

See footnotes at end of table.

Table 3.—Panama: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1963	1965	Principal sources, 1965
Metals—Continued			
Iron and steel:			
Pig	1	1,001	Mainly from Belgium-Luxembourg.
Scrap	385	568	All from United States.
Ferroalloys	7	2	All from West Germany.
Primary forms	7,149	11,150	Mainly from Belgium-Luxembourg.
Semimanufactures:			
Bars, rods, and shapes	3,882	4,831	NA.
Plates and sheets, all types	10,653	16,620	Japan 6,294; Belgium 442.
Pipe and tubes	6,929	6,342	United States 4,316.
Other	2,295	158	United States 143.
Lead metal, all forms	199	217	United States 110; Denmark 29.
Platinum and platinum-group metals troy ounces	4,115	707	Mainly from United States.
Silver, bars, ingots, sheets do	7,523	11,478	Do.
Tin metal, all forms long tons	25	40	West Germany 17; Denmark 8.
Zinc, metal, all forms	3	5	United States 2; West Germany 2.
Other nonferrous metals	---	1	Mainly from United States.
Nonferrous scrap	79	47	All from Canal Zone.
Nonmetals:			
Asbestos, raw, washed or ground	4	1	Mainly from United States.
Abrasives:			
Emery, corundum, pumice	8	7	Italy 3; United Kingdom 3.
Cement:			
Portland	2,291	3,097	United Kingdom 1,000; France 728; Colombia 656.
White	2,138	NA	
Clays:			
Unprocessed	232	342	Mainly from United States.
Refractory bricks	164	553	Do.
Fertilizers:			
Natural:			
Phosphate rock	5	---	
Sodium nitrate	24	1	All from United States.
Manufactured:			
Nitrogenous	15,565	23,148	Netherlands 11,905; West Germany 9,602.
Phosphatic	1,228	1,633	Netherlands 1,080; United States 534.
Potassic	579	1,022	West Germany 939.
Mixed	2,655	4,282	Costa Rica 2,328; Netherlands 1,098.
Gypsum:			
Crude	6,358	5,277	Mainly from Dominican Republic.
Calcined	33	44	Mainly from United States.
Infusorial earth, not as abrasive	203	108	Do.
Lime	828	834	United Kingdom 406; United States 378.
Marble, block and ground	395	327	Mainly from Italy.
Mica, untrimmed	(1)	(1)	
Salt, all types	387	301	United States 109; Dominican Republic 100.
Sand	32	13	United States 8; West Germany 5.
Sodium carbonate	252	252	United Kingdom 132; United States 98.
Sodium hydroxide	737	1,027	United States 705; United Kingdom 239.
Stone:			
Dimension, worked and unworked	176	15	NA.
Industrial	476	178	NA.
Sulfur	8	3	United States 2.
Talc	121	183	Mainly from United States.
Other nonmetal minerals	12	499	Do.
Mineral fuels:			
Coal, coke and briquets	365	225	Belgium 130; United States 22.
Mineral tar	35	1,375	Mainly from United States.
Petroleum:			
Crude and partially refined thousand tons	2,047	2,365	Mainly from Venezuela.
Refinery products:			
Aviation gasoline do	15	2	Mainly from Canal Zone.
Motor gasoline do	5		
Jet fuel do	18	NA	
Kerosine do	2	1	Do.
Distillate fuel oil do	13	37	Trinidad and Tobago 18; Netherlands Antilles 17.
Residual fuel oil do	100	NA	
Lubricants including greases	6	7	Mainly from United States.
Other	1	1	Do.

NA Not available.

[1] Less than ½ unit.

Sources: Anuario de Comercio Exterior, 1963. Anuario Estadístico Centroamericano de Comercio Exterior. SIECA. Oct. 12, 1966. 794 pp.

Paraguay

Table 1.—Paraguay: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Cement	15,900	17,600	22,500	28,800	25,739
Clay: [1]					
Kaolin	NA	NA	55	57	60
Other	NA	NA	300,000	320,000	360,000
Gypsum	NA	NA	780	2,200	2,500
Lime	17,100	17,400	17,800	18,500	17,610
Limestone:					
For cement [1]	32,000	33,600	40,500	40,000	38,000
For lime [1]	22,000	19,000	26,700	30,000	29,000
Ocher [1]	NA	NA	55	60	10
Sand, for construction [1]	NA	NA	185,000	230,000	300,000
Stone:					
Crushed rock	NA	NA	730,000	510,000	700,000
Rough stone	NA	NA	450,000	490,000	510,000
Building stone, semidressed	NA	NA	35,000	37,000	35,000
Flagstone	NA	NA	15,000	17,000	14,000
Paving blocks	NA	NA	150	200	450
Talc	NA	NA	47	140	60
Mineral Fuels:					
Petroleum refinery products:					
Gasoline ---- 42-gallon barrels	---	---	---	---	124,420
Jet fuel	---	---	---	---	6,458
Kerosine	---	---	---	---	42,279
Diesel and gas oil	---	---	---	---	130,190
Residual fuel oil	---	---	---	---	74,120
Liquefied petroleum gas	---	---	---	---	5,096

NA Not available.

[1] Based on industry or Government estimates.

Source: U.S. Embassy, Asunción.

Table 2.—Paraguay: Imports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Aluminum, all forms	10	13
Copper, wire	174	146
Iron and steel:		
Bars, rods and sheets	3,408	4,954
Tinplate, and manufactures thereof	4,412	3,898
Tubes, pipes and fittings	634	935
Wire and manufactures thereof	4,278	3,833
Lead, all forms including solder	75	96
Tin, all forms ... long tons	2	15
Nonmetals:		
Cement, portland	523	776
Gypsum	NA	198
Salt	15,777	21,617
Stone, clay, earth and manufactures thereof	2,091	2,284
Mineral fuels:		
Coal	121	60
Petroleum refinery products:		
Gasoline	41,579	41,620
Kerosine	17,691	24,148
Distillate fuel oil	12,706	18,260
Residual fuel oil	64,920	89,902
Lubricants	2,560	4,131
Asphalt	2,310	2,505

NA Not available.

[1] Data on origin of imports not available.

Sources: Banco Central del Paraguay. Departamento de Estudios Economicos Boletin Estadistico Mensual. Asunción, Paraguay. No. 104. Enero 1967. pp. 29–32. U.S. Embassy, Asunción.

Peru

Table 1.—Peru: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Antimony content of—					
Refined bars	242	352	359	264	359
Antimonial lead bars	42	29	25	[r] 33	13
Total smelter products	284	381	384	[r] 297	372
Ore and concentrate for export	238	230	298	[r] 350	300
Total recoverable antimony	522	611	682	[r] 647	672
Arsenic oxide (white arsenic)	519	620	621	500	[e] 500
Bismuth content of—					
Refined metal kilograms	436,811	475,730	674,770	656,040	665,972
Bismuth-lead bars do	51,512	84,161	46,377	89,256	81,141
Total smelter products do	488,323	559,891	721,147	745,296	747,113
Concentrate for export do	3,479	4,550	17,542	[r] 62,335	12,327
Total recoverable bismuth do	491,802	564,441	738,689	[r] 807,631	759,440
Cadmium content of—					
Refined bars do	106,507	173,359	197,105	[r] 214,590	200,465
Zinc concentrate for export do	21,244	19,137	29,790	[r] 112,453	101,660
Total recoverable cadmium do	[r] 127,751	[r] 192,496	[r] 226,895	[r] 327,043	301,125
Copper content of—					
Refined bars	34,419	36,913	37,811	[r] 40,461	37,974
Blister	113,414	118,295	114,246	[r] 118,161	113,102
Matte	1,778	2,285	---	---	---
Zinc-copper-aluminum bars	2	8	10	[r] ---	---
Total smelter products	149,613	157,501	152,067	[r] 158,622	151,076
Copper sulfate	365	468	668	533	653
Ore and concentrate for export	15,939	21,330	22,825	[r] 20,671	24,665
Cement copper for export	873	765	885	510	---
Total recoverable copper	166,790	180,064	176,445	[r] 180,336	176,394
Gold content of—					
Refined bars troy ounces	46,749	43,680	38,227	37,391	33,372
Gold-silver bars do	18,983	7,604	8,984	[r] 7,102	6,913
Copper bars do	1,253	1,268	1,236	[r] 1,178	---
Total smelter products do	66,985	52,552	48,447	[r] 45,671	40,285
Placer gold [e] do	3,215	8,241	7,691	[r] 15,288	20,619
Ore and concentrate for export do	52,785	40,225	36,365	[r] 44,244	34,074
Total recoverable gold [e] do	122,985	101,018	92,503	[r] 105,183	94,978
Indium kilograms	---	---	---	---	541
Iron and steel:					
Iron ore and concentrates thousand tons	5,949	[r] 6,621	6,528	[r] 7,104	7,787
Pig iron do	39	29	27	30	[1] 12
Steel ingots and castings do	71	76	82	[r] 94	[1] 57
Lead content of—					
Refined bars	67,922	80,773	89,466	[r] 86,558	88,567
Antimonial-lead bars	406	298	227	189	141
Bismuth-lead bars	34	56	31	60	54
Total smelter products	68,362	81,127	89,724	[r] 86,807	88,762
Ore and concentrate for export	59,814	68,070	60,950	[r] 67,537	55,998
Total recoverable lead	128,176	149,197	150,674	[r] 154,344	144,760
Manganese ore, 45 percent manganese equivalent	6,716	[r] 518	[r] 372	[r] 990	850
Mercury 76-pound flasks	[r] 3,481	3,092	3,275	[r] 3,117	[e] 3,000

See footnotes at end of table.

Table 1.—Peru: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals—Continued					
Molybdenum sulfide content of ores and concentrates	8	[r] 849	659	[r] 1,134	1,122
Molybdenum content, recoverable	5	[r] 538	[r] 395	[r] 673	757
Selenium, refined kilograms	8,338	8,977	7,619	8,602	5,956
Silver content of—					
Refined bars thousand troy ounces	16,228	19,081	20,604	19,460	18,042
Sterling bars do	618	615	655	812	909
Gold-silver bars do	448	479	334	[r] 65	162
Copper bars do	785	809	757	[r] 734	817
Matte do	454	469	---	---	---
Total smelter products do	18,533	21,453	22,350	[r] 21,071	19,930
Ore and concentrate for export do	14,398	15,347	[r] 12,069	[r] 15,399	12,911
Total recoverable silver do	[r] [2] 33,148	[r] [2] 35,203	[r] 34,419	[r] 36,470	32,841
Tellurium, refined kilograms	22,894	12,081	21,209	16,350	17,987
Thallium do	---	---	---	100	50
Tin content of—Ore and concentrate for export long tons	11	21	36	[r] 49	37
Tungsten ores and concentrates, gross tonnage	363	426	[r] 547	[r] 600	717
60 percent WO_3 equivalent	439	516	[r] 646	[r] 796	728
Recoverable WO_3 content	237	279	[r] 348	[r] 430	393
Vanadium concentrate	[2] 360	---	---	---	---
Zinc content of—					
Refined metal slabs	32,753	53,905	59,742	[r] 61,291	62,626
Powder	---	778	922	[r] 1,150	---
Zinc-copper-aluminum bars	186	865	1,039	[r] ---	---
Total smelter products	32,939	55,548	61,703	[r] 62,441	62,626
Sulfate	137	168	217	491	824
Concentrate for export	129,164	139,180	174,740	[r] 191,564	194,369
Total recoverable zinc	162,240	194,896	236,660	[r] 254,496	257,819
Nonmetals:					
Barite	114,551	124,790	[r] 125,420	[r] 110,771	116,645
Bentonite	265	371	603	5,020	1,663
Cement	700,568	754,056	813,445	[r] 1,016,831 [3]	1,068,711
Clays:					
Common	248,630	[r] 249,989	[r] 260,567	[r] 290,520	290,000
Refractory	6,216	9,271	[r] 10,006	[r] 9,493	8,500
Kaolin	350	[r] 53	330	390	417
Diatomite	1,473	2,479	[r] 2,593	[r] 2,795	[e] 2,800
Dolomite	978	567	1,500	2,204	2,942
Feldspar	292	220	850	941	478
Gypsum:					
Crude	61,200	52,112	50,036	[r] 66,475	63,840
Calcined	31,247	29,977	32,869	[r] 39,929	NA
Lime	80,000	85,000	[r] 92,488	NA	NA
Limestone:					
Crude:					
For cement manufacture	888,836	1,174,353	1,287,303	[e] 1,320,000	[e] 1,389,000
For lime manufacture	99,578	118,754	89,935	[r] [e] 640,000	[e] 296,000
For metallurgical fluxing	22,130	25,500	60,990		
Total crude	1,010,544	1,318,607	1,438,228	[r] 1,960,000	1,685,000
Marble, dimension stone	1,708	756	[r] 1,133	[r] 1,549	1,000
Phosphate, guano	206,061	[r] 187,188	[r] 205,099	[r] 169,897	55,505
Pyrophyllite	1,434	2,432	[r] 3,592	[r] 4,192	3,835
Salt:					
Marine	76,700	63,500	112,349	[r] 107,730	NA
From saline springs or wells	6,092	10,017	10,823	[r] 6,095	NA
Mined rock salt	10,849	13,900	9,715	[r] 9,840	NA
Total	93,641	87,417	132,887	[r] 123,665	172,997
Sand and gravel thousand tons	1,041	1,090	[r] 1,482	[r] 1,732	2,477
Slate	---	23	---	---	---
Stone, crushed:					
Quartz and marble	11,300	334	300	500	---
Silica	11,155	64,568	[r] 69,757	[r] 69,383	60,000
Total	22,455	64,902	[r] 70,057	[r] 69,883	60,000
Talc	286	172	170	285	

See footnotes at end of table.

Table 1.—Peru: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 p
Mineral Fuels:					
Anthracite	22,469	9,600	31,737	r 7,730	13,684
Bituminous coal	140,379	121,559	115,347	r 121,200	140,988
Coke	39,500	38,448	25,568	r 27,402	34,927
Natural gas ... million cubic feet	r 35,151	r 37,353	45,134	44,335	44,051
Natural gas liquids thousand 42-gallon barrels	1,081	1,078	1,082	1,156	1,092
Petroleum:					
Crude ... do	21,134	21,468	23,119	23,068	23,027
Refinery products:					
Aviation gasoline ... do	63	48	46	54	34
Motor gasoline ... do	5,368	5,443	6,089	5,980	6,893
Jet fuel ... do	493	486	725	789	1,025
Kerosine ... do	3,000	2,989	3,139	3,270	3,438
Distillate fuel oil ... do	5,989	5,791	5,958	6,254	6,037
Residual fuel oil ... do	2,770	4,531	5,042	5,431	5,773
Lubricants ... do	75	60	80	84	81
Asphalt ... do	130	93	129	198	234
Coke ... do	---	1	---	27	2
Other [4] ... do	4	3	87	155	92
Total refinery products ... do	17,892	19,445	21,295	22,242	23,609

e Estimate. p Preliminary. r Revised. NA Not available.

[1] Production of Sociedad Siderurgica de Chimbote, S.A., only.

[2] Columns do not total. On last revision, detailed information not given.

[3] Exports.

[4] Sales.

Table 2.—Peru: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Antimony:			
Gross weight:			
Ore	1,109	1,041	Argentina 321; Brazil 217; France 157.
Refined bars	426	217	All to United States.
Content of:			
Ore	594	495	Argentina 159; Brazil 126; France 62.
Refined bars	400	202	All to United States.
Bismuth, content of:			
Mixed bars [1]	74	80	(2).
Refined bars	668	662	United States 496; France 55.
Cadmium, refined bars	212	223	United States 142; Netherlands 35.
Copper:			
Gross weight:			
Ores and concentrates	77,514	87,976	Japan 37,872; United Kingdom 27,054.
Cement and matte r	r 2,672	1,151	United States 810; Japan 341.
Blister	117,027	118,165	United States 73,165; Belgium-Luxembourg 17,300; West Germany 14,970.
Content of:			
Ores and concentrates	22,375	23,865	(2).
Cement and matte r	r 1,489	738	(2).
Blister	115,659	117,276	(2).
Refined bars and sheets r	r 40,171	37,969	United States 34,007; Netherlands 2,215.
Total copper content	179,693	179,848	
Gold, content of:			
Ores, various ... troy ounces	2,064	1,300	(2).
Concentrates, various ... do	r 34,784	34,435	(2).
Mixed bars [1] ... do	1,111	657	(2).
Blister bars ... do	1,376	8,243	(2).
Total ... do	r 39,335	44,635	

See footnotes at end of table.

Table 2.—Peru: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Iron and steel:			
Iron ore	5,205,190	6,374,948	Japan 3,957,257; United States 684,287.
Iron ore, concentrates	618,489	871,034	Japan 381,156; United States 178,629; West Germany 165,681.
Scrap, foundry, and waste	---	35	All to Belgium-Luxembourg.
Bars, plates, and sheets	1	---	
Lead:			
Gross weight:			
Ores	6,453	8,423	Japan 3,426; United States 2,489; Canada 1,425.
Concentrates	115,807	115,285	United States 53,933; West Germany 21,853; Canada 20,633.
Content of:			
Ores	2,937	3,906	(2).
Concentrates	61,689	61,652	(2).
Mixed bars	49	53	(2).
Refined bars	102,063	85,401	United States 24,472; Italy 16,189; Japan 10,687.
Total lead content	166,738	151,012	
Manganese ore	844	471	All to United States.
Mercury 76-pound flasks	3,866	1,643	United States 1,243; Japan 200; Netherlands 200.
Molybdenum: Ores and concentrates	901	1,107	France 435; United Kingdom 343.
Selenium, content of: Crude metal kilograms	11,103	8,733	Netherlands 4,985; United States 1,873.
Silver:			
Gross weight: Refined bars thousand troy ounces	22,877	19,110	West Germany 7,927; United States 3,805.
Content of:			
Ores, of silver and other metals do	406	419	(2).
Concentrates do	14,008	12,929	(2).
Copper cement and matte do	125	1	(2).
Blister bars do	854	783	(2).
Mixed bars do	340	124	(2).
Refined bars do	21,315	18,788	(2).
Total silver content do	37,048	33,044	
Tellurium, content of: Refined cakes and bars kilograms	10,429	28,182	United States 18,757; Netherlands 7,971.
Tin content of ores and concentrates long tons	39	89	United States 59; United Kingdom 30.
Tungsten:			
Ores and concentrates	814	632	United States 425; Japan 121.
WO_3 content [3]	587	453	United States 308; Japan 88.
Ores, 60 percent WO_3 equivalent	978	755	United States 513; Japan 147.
Zinc:			
Gross weight:			
Ores	---	1,569	United States 938; Japan 631.
Concentrates	377,207	398,481	Japan 191,884; United States 130,653.
Content of:			
Ores	---	864	(2).
Concentrates	202,759	211,127	(2).
Refined bars, slabs and sheets	[r] 72,215	55,716	Brazil 11,207; United Kingdom 9,680; United States 9,457.
Total zinc content	[r] 274,974	267,707	
Mixed metals, ingots and bars, gross weights:			
Bismuth, with lead and silver	123	133	All to United States.
Silver, with gold troy ounces	356,487	133,426	All to West Germany.
Nonmetals:			
Barite, crude	126,973	107,952	United States 100,143; Chile 6,893.
Bentonite	96	27	All to Ecuador.
Cement	44	25	All to Bolivia.
Chalk	5	30	All to Ecuador.

See footnotes at end of table.

Table 2.—Peru: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Guano	8,658	2,150	United Kingdom 1,200; United States 950.
Salt	342	120	All to Ecuador.
Sand	10	50	All to Bolivia.
Stone: Ornamental porphyry, onyx, marble.	42	32	Ecuador 29; United States 3.
Mineral fuels:			
Anthracite	9,794	15,910	Japan 15,730; Bolivia 180.
Peat	---	56	All to Chile.
Coke	1	---	
Petroleum:			
Crude	399,866	344,057	United Kingdom 136,452; Brazil 94,147.
Liquid petroleum gas	---	302	All to Ecuador.
Petroleum refinery products:			
Aviation gasoline	229	---	
Motor gasoline	1	6	Mainly to Colombia.
Kerosine	41	62	Chile 47; Colombia 15.
Distillate fuel oil	69,098	83,056	Chile 67,008; United Kingdom 8,030.
Residual fuel oil	28,284	41,228	Mainly to bunkers.
Lubricants	1,387	3,746	Chile 2,686; Bunkers 57.
Other	419	---	

r Revised.

[1] See mixed metals listed at end of metals section of table for gross weights.

[2] Country distribution not separately reported.

[3] Official report of these figures as metal (W) content believed to be in error.

Table 3.—Peru: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Ingots	879	1,769	Canada 1,170; United States 525.
Semimanufactures	2,432	2,279	United Kingdom 620; United States 413; Belgium-Luxembourg 376.
Cadmium metal[1] ... kilograms	r 3,101	296	United Kingdom 170; Canada 95.
Copper and alloys:			
Unalloyed, all forms	2	1,398	United States 412; Sweden 151; Chile 146.
Alloyed, all forms	663	51	United Kingdom 19; United States 13.
Gold:			
Bars ... troy ounces	205,416	253,412	Canada 248,589; United States 3,215.
Plates, sheets, foil, etc. ... do	932	218	West Germany 142; United States 70.
Iron and steel:			
Iron ore	137	74	All from United States.
Iron and steel scrap	583	4,472	Mainly from United States.
Powder, shot, and sponge	82	170	United States 128; Sweden 42.
Ferroalloys	630	1,065	Republic of South Africa 430; United States 255.
Semimanufactures:			
Bars, rods, and structural shapes.	20,703	35,915	Belgium-Luxembourg 15,845; United States 7,404.
Rails and accessories	18,619	7,550	West Germany 3,715; Canada 2,005.
Plates, sheets, strips, bands, and hoops:			
Uncoated	39,085	68,762	Japan 33,143; Belgium-Luxembourg 12,489.
Galvanized	15,350	12,488	Japan 8,558; Belgium-Luxembourg 1,735.
Tinplate and Terne Plate	23,859	23,643	Japan 11,020; United States 3,286.
Wire	3,262	5,179	Belgium-Luxembourg 1,392; France 1,084; West Germany 776.
Pipe and fittings	16,450	25,968	Japan 8,988; Mexico 4,752; France 3,977.
Cast iron	1,069	410	All from West Germany.
Lead and alloys, all forms	52	47	United States 30; Japan 7.
Magnesium metal ... kilograms	1,326	2,858	All from United States.
Mercury ... 76-pound flasks	31	31	United States 13; West Germany 6.

See footnotes at end of table.

Table 3.—Peru: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Nickel and alloys, all forms	43	47	United States 18; West Germany 13.
Platinum and platinum group metals troy ounces	251	79	Mainly from West Germany.
Silver ingots, dust, sheets, etc. do	4,887	8,231	United States 3,922; United Kingdom 3,022.
Tin and alloys:			
Refined unalloyed long tons	100	105	Malaysia 43; Bolivia 30.
Bar, sheet, powder, and pipe do	(1)	18	Bolivia 10; United States 5.
Babbitt do	r 17	5	Canada 2; United States 2.
Other alloys solder do	28	112	United States 80; United Kingdom 31; West Germany 2.
Zinc:			
Refined ingots, bars, scrap	43	46	Mainly from West Germany.
Plates, lithographic; bands, rods, strips.	161	157	Belgium-Luxembourg 55; United States 31.
Granular	r 38	31	United Kingdom 13; United States 12.
Other:			
Ores of ferroalloying metals	54	1,263	Philippines 1,123; Republic of South Africa 105.
Nonferrous ores, scorias, not elsewhere specified.	1	828	British Guiana 800; West Germany 27.
Nonferrous base metals and alloys, not elsewhere specified.	22	13	United States 5; United Kingdom 3; West Germany 1.
Nonmetals:			
Abrasives, natural	1,769	3,715	United States 2,355; West Germany 1,116.
Asbestos, crude, refined, or washed	2,907	4,535	Canada 2,898; Republic of South Africa 851.
Cement:			
Portland	22,970	57,823	Venezuela 41,404; Belgium-Luxembourg 5,589.
White (for stucco)	1,686	2,506	Denmark 630; Japan 586; West Germany 477.
Chalk	348	1,535	Mainly from France.
Clays:			
Bentonite	---	871	United States 781; France 44.
Kaolin and refractory earth	2,054	1,218	Mainly from United States.
Other	1,816	2,127	United States 1,129; West Germany 524.
Cryolite	12	3	Mainly from West Germany.
Fertilizers and fertilizer raw materials:			
Nitrogenous:			
Anhydrous ammonia	66	23	United States 16; United Kingdom 2.
Potassium nitrate	97	159	West Germany 92; Netherlands 50.
Sodium nitrate	6,612	1,895	Mainly from Chile.
Other nitrogen fertilizers	87,053	111,596	West Germany 38,084; Belgium-Luxembourg 18,655; Netherlands Antilles 14,878.
Phosphatic:			
Phosphate rock	14,341	19,318	All from United States.
Phosphatic fertilizers	1,263	221	Chile 101; West Germany 100.
Potassic, all forms	1,955	6,769	West Germany 3,338; France 2,623.
Other	11,172	6,425	Chile 3,420; West Germany 1,497.
Graphite:			
Crude	89	79	United Kingdom 39; West Germany 17.
Lubricants	27	NA	
Gypsum, calcined	150	102	Mainly from United States.
Magnesite, crude or calcined	1,006	1,206	Do.
Mica, all forms	131	119	Do.
Salt, crude	3,324	4,325	Bahamas 2,500; Chile 1,607.
Sands, silica or other	2,502	2,974	Mainly from United States.
Stone, ornamental and construction	444	555	Mainly from Italy.
Sulfur, all forms	12,256	16,002	Mainly from United States.
Talc and steatite	743	970	United States 359; Italy 251.
Witherite (barium carbonate), crude	107	90	United Kingdom 52; West Germany 31.
Other nonmetals	r 907	410	Canada 273; Republic of South Africa 112.
Mineral fuels:			
Coal and briquets	52	1,127	Mainly from United States.
Peat	7	7	All from West Germany.
Coke	2,721	8,106	West Germany 4,474; United Kingdom 2,561.
Other	---	20	United States 18; Netherlands 2.
Petroleum:			
Crude and partially refined	r 103,558	76,750	Mainly from Venezuela.
Refinery products:			
Aviation gasoline	29,483	43,566	Mainly from Netherlands Antilles.
Motor gasoline	78,335	158,010	Do.

See footnotes at end of table.

Table 3.—Peru: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Petroleum—Continued			
Kerosine	19,935	510	All from Netherlands Antilles.
Distillate fuel oil	r 543,418	478,283	Venezuela 233,229; Colombia 138,951.
Lubricants, including greases	r 16,508	121,251	Venezuela 85,582; United States 24,292.
Asphalt	2,738	1,196	United States 595; Trinidad and Tobago 560.
Vaseline, paraffin, waxes	10,776	12,741	India 6,562; United States 4,530.
Other	764	1,470	Mainly from United States.
Total refinery products	r 701,957	817,027	

r Revised.

[1] Less than ½ unit.

Philippines

Table 1.—Philippines: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Cadmium, content of zinc concentrate kilograms	600	11,200	11,000	10,000	5,000
Chromite:					
Metallurgical thousand tons	98	86	79	96	104
Refractory do	433	373	426	458	456
Total do	531	459	505	554	560
Copper, metal content of concentrates (largely 22 to 29.5 percent copper)	54,728	63,686	60,458	62,740	73,562
Gold troy ounces	423,394	376,006	425,770	435,545	452,672
Iron and steel:					
Iron ore and concentrate, 55 to 58 percent iron thousand tons	1,387	1,385	1,367	1,438	1,466
Ferroalloys	1,475	1,296	1,532	1,744	1,795
Steel ingots (from scrap) [e] thousand tons	120	NA	NA	[1] 114	[1] 148
Lead, metal content of 50 to 60 percent concentrate	82	71	103	105	92
Manganese ore	11,939	7,666	8,005	51,744	56,093
Mercury, estimated content of concentrate 76-pound flasks	2,767	2,651	2,496	2,384	2,443
Molybdenum, metal content of 94 percent MoS_2 concentrate	113	107	105	77	49
Nickel, content of concentrate	11	---	---	---	---
Palladium, content of nickel concentrate troy ounces	141	---	---	---	---
Platinum, content of nickel concentrate do	172	---	---	---	---
Silver do	675,570	838,304	907,504	933,938	1,162,889
Zinc, content of concentrate [2]	4,460	3,893	2,136	2,059	1,649
Nonmetals:					
Asbestos	941	382	532	---	---
Asphalt rock	6,933	5,186	---	---	---
Barite, 85 to 90 percent $BaSO_4$	416	914	1,476	---	2
Cement thousand tons	961	951	1,201	1,529	1,646
Clays, white	[e] 8,000	6,703	6,967	[e] 7,000	[e] 6,000
Dolomite	4,995	5,089	5,220	5,149	4,135
Feldspar	15,571	6,669	8,051	12,289	8,615
Gypsum (mostly byproduct)	14,453	30,694	40,958	27,488	24,160
Lime	[e] 43,000	31,396	29,175	23,831	23,548
Limestone thousand tons	[e] 1,400	1,480	1,799	NA	NA
Phosphatic materials:					
Guano	95	1,473	1,191	4,172	534
Phosphate rock	3,773	1,066	2,857	10	100
Pyrite	56,000	58,055	43,912	105,293	114,442
Salt, sea thousand tons	96	70	47	225	142
Silica sand (ordinary glass sand) do	110	111	[r] 197	280	234
Sulfur	[r] 51	48	69	[r] 48	14
Talc	118	95	98	593	637
Mineral fuels:					
Coal thousand tons	163	157	115	95	78
Petroleum refinery products:					
Gasoline thousand 42-gallon barrels	6,903	8,660	9,189	9,474	11,213
Kerosine do	2,139	2,509	2,544	3,238	3,803
Distillate fuel oil do	4,893	5,872	6,881	7,139	8,450
Residual fuel oil do	5,942	7,561	9,757	11,093	13,133
Refinery fuel (including losses) do	1,005	1,374	1,500	1,700	1,900
Other products do	1,455	1,545	954	[e] 1,442	1,801
Total do	22,337	27,521	30,825	34,086	40,300

[e] Estimate. [r] Revised. NA Not available.

[1] Rolled steel in 1965.

[2] Includes zinc content of copper-zinc concentrates containing 46 percent zinc and 3 percent copper.

Table 2.—Philippines: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Brass scrap	1,137	925	Japan 885; Taiwan 40.
Chromite:			
Metallurgical	130,230	105,840	All to Japan.
Refractory	457,094	512,964	United States 331,874; United Kingdom 84,520; Japan 43,039.
Copper:			
Ore	16,804	22,316	All to Japan.
High-gold concentrate	46,148	235,416	All to Japan.
Ordinary concentrate	269,432		
Metal content of ore and concentrate [e]	63,400	47,000	All to Japan.
Scrap	1,208	1,215	Japan 375; West Germany 340; Belgium 135; Spain 135.
Gold:			
Bullion troy ounces	240,242	40,565	All to the United States.
Concentrate and matte [1]	6,784	2,827	Japan 2,160; United States 667.
Iron ore and equivalent:			
Ore thousand tons	1,311	1,272	All to Japan.
Concentrate do	204	117	All to Japan except 100 tons to Guam.
Pyrite cinder do	---	9	All to Japan.
Manganese ore	16,537	59,988	Japan 53,538.
Mercury 76-pound flasks	1,447	2,205	Netherlands 858; United Kingdom 449; United States 399.
Molybdenum concentrate	275	150	West Germany 71; United Kingdom 40; Japan 30.
Zinc ore and concentrate	4,888	3,910	All to the United States.
Mineral fuels:			
Crude oil (reexport) thousand tons	18	4	South Viet-Nam 4.
Gas oil (bunker fuel) do	48	46	All to Malaya except 395 tons to South Viet-Nam.

[e] Estimate.
[1] Includes gold-and-silver bearing lead-copper concentrates.

Source: Foreign Trade Statistics of the Philippines 1964 and 1965. Department of Commerce and Industry, Manila, 1965 and 1966. Bureau of the Census and Statistics.

Table 3.—Philippines: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals and metallic ores:			
Aluminum:			
Ingots, bars, and alloys	4,460	4,283	United States 2,319; Canada 859; Australia 651; Japan 221.
Semimanufactures	950	940	Japan 372; United States 255.
Copper:			
Ingots and bars	3,400	3,970	Japan 3,907.
Semimanufactures	1,320	1,035	Japan 526; United States 168.
Iron and steel:			
Pig iron	21,150	14,555	Japan 6,909; Australia 3,742; Spain 3,048.
Ferroalloys	1,991	1,451	Taiwan 670; Norway 483; Japan 192; Canada 91.
Ingots and semimanufactures thousand tons	[e] 500	530	Japan 360.
Scrap	10,182	10,999	United States 10,022.
Lead:			
Ingots, bars, and alloys	2,003	3,052	Australia 2,585; Japan 182.
Semimanufactures	428	595	Australia 155; Japan 96; United States 70; West Germany 47.
Pigments	[e] 704	485	United States 235; Australia 219.
Nickel, all forms	65	33	United States 26.
Tin ingots and alloys long tons	4,600	600	Malaysia 592.
Titanium oxide	2,295	2,361	Japan 765; West Germany 381; Australia 374; United Kingdom 317; Belgium 134.
Zinc:			
Ingots and alloys	10,363	10,958	Australia 4,711; Japan 3,593; France 1,700.
Semimanufactures	2,290	538	Australia 249; United States 121; Japan 91.
Pigments	1,100	792	Netherlands 431; United Kingdom 104; Belgium 77.
Nonmetals:			
Abrasive, including diamond	333	347	Netherlands 144; United States 98; Greece 60.
Asbestos	1,894	1,288	Canada 750; Portuguese Africa 181.
Cement	185,851	91,547	Taiwan 62,843; Japan 24,305; Denmark 2,575.
China clay	2,857	4,233	Japan 2,120; United Kingdom 1,084; United States 657.
Diatomaceous earth	2,382	4,239	Japan 4,010.
Dolomite	2,699	3,277	Japan 2,426; United States 441; Austria 200.
Fertilizers, chemical thousand tons	234	226	Japan 85; West Germany 55; United States 17; Canada 16; Netherlands 16.
Gypsum	27,581	25,935	Cyprus Island 10,450; United Arab Republic (Egypt) 7,823; Australia 6,708.
Phosphate rock	18,754	57,797	United States 57,792.
Sulfur	5,212	19,039	Canada 16,386; United States 2,351.
Talc	2,572	2,652	South Korea 1,447; Japan 594; United States 578.
Mineral fuels:			
Coke from coal	11,521	20,699	Australia 7,627; Taiwan 5,910; West Germany 3,075; Japan 2,948.
Petroleum:			
Crude thousand tons	4,216	4,533	Indonesia 1,217; Saudi Arabia 842; Iraq 703; Qatar 547; Iran 543.
Refinery products:			
Gasoline do	38	63	Iran 28; Bahrain 10.
Kerosine do	---	20	Iran 7; Bahrain 7; Japan 4.
Distillate fuel oil do	11	127	Saudi Arabia 19; Iran 16; Malaysia 16; Bahrain 15.
Residual fuel oil do	---	---	
Lubricants do	89	83	United States 61.
Other do	19	19	United States 9; Indonesia 7.
Total do	157	312	

[e] Estimate.

Source: Foreign Trade Statistics of the Philippines 1964 and 1965. Department of Commerce and Industry, Manila, 1965 and 1966. Bureau of the Census and Statistics.

Poland

Table 1.—Poland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum, ingot thousand tons	48	47	48	47	55
Cadmium [e]	400	420	420	425	430
Copper:					
Ore:					
Gross weight thousand tons	2,162	2,162	2,247	2,356	2,507
Metal content [e]	13,700	13,200	14,500	15,100	16,100
Electrolytic	24,138	29,633	36,645	37,400	39,847
Iron and steel:					
Iron ore thousand tons	2,436	2,609	2,680	2,862	3,054
Pig iron and ferroalloys do	5,311	5,395	5,643	5,760	5,856
Steel ingots and castings do	7,684	8,004	8,573	9,088	9,850
Semimanufactures:					
Pipe do	450	474	[e] 500	[e] 500	NA
Other rolled do	4,824	5,238	5,457	5,708	NA
Total do	5,274	5,712	[e] 5,957	[e] 6,208	6,578
Lead:					
Ore:					
Gross weight do	2,497	2,556	2,597	[e] 2,600	3,569
Metal (lead) content	37,900	38,700	38,300	[e] 41,200	[e] 51,300
Refined	40,680	38,914	41,501	[e] 41,386	[e] 43,487
Nickel	1,323	[r] 1,105	[r] 1,205	[r] 1,101	[e] 1,300
Silver [e] thousand troy ounces	129	129	129	129	129
Zinc:					
Zinc content of lead-zinc ore	145,114	147,100	[r] 150,700	152,500	189,600
Refined:					
Electrolytic	82,100	83,500	87,300	90,000	NA
Other	98,800	97,700	99,600	100,400	NA
Total	180,900	181,200	186,900	190,400	193,000
Nonmetals:					
Barite	45,215	45,700	[e] 45,700	[e] 45,700	[e] 47,000
Cement thousand tons	7,544	7,674	8,761	9,573	10,041
Fertilizer materials:					
Nitrogenous, manufactured bulk do	1,269	1,330	1,451	1,553	[e] 1,600
Phosphatic:					
Phosphate rock	55,904	64,800	89,000	93,000	[e] 93,000
Manufactured bulk thousand tons	1,368	1,389	1,644	1,799	[e] 1,800
Feldspar	NA	26,700	[e] 26,700	[e] 26,700	[e] 28,000
Gypsum:					
Crude thousand tons	548	585	[e] 760	[e] 762	[e] 762
Calcined do	116	117	156	158	[e] 160
Lime:					
Crude, construction and industrial do	2,384	2,433	2,680	2,877	3,014
Quicklime, hydrated lime, and dead burned dolomite do	1,983	2,004	[r] 2,173	[r] 2,260	[e] 2,457
Magnesite	34,100	26,600	38,000	42,000	[e] 42,000
Pyrite, gross weight thousand tons	223	216	234	[e] 240	[e] 240
Salt:					
Rock do	609	645	660	674	[e] 690
Other do	1,466	1,487	1,581	1,623	[e] 1,715
Total do	2,075	2,132	2,241	2,297	2,405
Sulfur:					
Ore, gross weight thousand tons	1,740	1,791	2,439	2,959	NA
Content of ore do	210	235	295	431	477
Mineral fuels:					
Coal:					
Bituminous do	109,604	113,150	117,354	118,831	121,979
Brown do	11,091	15,344	20,250	22,626	24,508
Briquets, all kinds do	999	996	999	949	[e] 975
Coke, all kinds do	14,906	14,609	14,931	15,196	[e] 15,075

See footnotes at end of table.

Table 1.—Poland: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels—Continued					
Gas, natural ...... million cubic feet..	29,531	35,275	45,930	51,419	51,356
Peat, fuel ...... thousand tons..	66	102	[e] 100	78	[e] 75
Petroleum:					
Crude ...... thousand tons..	202	213	282	339	400
Refinery products:					
Gasoline ...... do....	248	305	385	654	819
Kerosine ...... do....	28	21	NA	NA	NA
Unspecified ...... do....	1,016	1,116	NA	NA	NA
Total ...... do....	1,292	1,442	1,933	3,516	NA

[p] Preliminary. [e] Estimate. [r] Revised. NA Not available.

Table 2.—Poland: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Cadmium	297	399	U.S.S.R. 208; West Germany 99; United Kingdom 58.
Iron and steel:			
Iron ore	19,700	21,723	United Kingdom 20,988.
Pig iron and cast iron	23,109	10,686	Sweden 5,199; East Germany 1,766; Czechoslovakia 1,687; Albania 1,136.
Ferroalloys	6,340	---	
Semimanufactures	928,400	952,677	Czechoslovakia 193,094; U.S.S.R. 148,462; United States 83,462; Yugoslavia 50,442; Rumania 48,952; Sweden 43,864; Bulgaria 31,155; Hungary 25,624.
Lead concentrate	6,139	12,365	All to West Germany.
Other nonferrous concentrates	30	---	
Zinc:			
Metal and dust	81,017	81,261	U.S.S.R. 50,172; Czechoslovakia 14,454; Hungary 7,073; West Germany 3,429; Sweden 2,083.
Alloys	8,472	7,995	U.S.S.R. 5,795; Brazil 868; Netherlands 474.
Rolled products	16,633	15,791	U.S.S.R. 3,980; East Germany 2,791; Czechoslovakia 2,659; Denmark 2,118; Thailand 1,250.
Nonmetals:			
Cement ...... thousand tons..	[r] 912	685	Spain 345; Ghana 105; West Germany 47; Liberia 23; United Kingdom 14.
Cement Clinker ...... do....	149	149	Spain 45; United Kingdom 30; Nigeria 29; Sierra Leone 25.
Lime, burned	64,840	60,212	Czechoslovakia 35,617.
Pyrite	31,500	8,771	Czechoslovakia 5,425; Hungary 3,271.
Refractory clays	80,500	78,821	Italy 37,006; Hungary 15,944; Yugoslavia 13,619; East Germany 5,550.
Salt, rock	125,000	122,004	Sweden 49,577; Czechoslovakia 23,818; Hungary 17,608.
Sulfur, elemental	150,500	241,008	Czechoslovakia 132,028; West Germany 36,036; Austria 28,483; Sweden 21,125; Belgium 9,113.
Mineral fuels:			
Coal:			
Bituminous ...... thousand tons..	19,268	21,045	U.S.S.R. 6,517; Denmark 2,466; East Germany 2,025; Finland 1,817; Czechoslovakia 1,646; France 469; Italy 428; West Germany 328.
Brown, including briquets.do....	5,381	5,199	All to East Germany.
Coke ...... do....	2,324	2,324	East Germany 856; U.S.S.R. 661; Hungary 259; Finland 127; Rumania 101; Pakistan 65; Sweden 61.
Petroleum:			
Refinery products: [1]			
Total ...... thousand tons..	586	1,027	Sweden 256; West Germany 246; Austria 145; Ireland 85; Finland 76; United Kingdom 59; Norway 57; Denmark 33.

[r] Revised.

[1] No commodity breakdown was reported since 1964.

Source: Rocznik Statystyki Handlu Zagranicznego 1965 (Annual Statistics of Foreign Trade 1965) Warsaw-1966, 240 pp.

Table 3.—Poland: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Metals:			
Aluminum:			
Alumina	93,300	86,069	Hungary 65,053; United Kingdom 1,016.
Bauxite	87,100	115,802	All from Hungary.
Bismuth	99	67	United Kingdom 1,963; West Germany 206.
Cadmium	9	8	All from Bulgaria.
Chromite	117,400	155,253	Albania 63,801; U.S.S.R. 58,125; Rumania 10,158; Pakistan 6,631; Cuba 4,223; Turkey 3,863.
Copper:			
Concentrate	19,100	16,437	Cuba 4,410; United Kingdom 4,032; West Germany 4,005; Morocco 1,927; the United States 1,259.
Metal including wire	27,926	29,009	U.S.S.R. 13,262; United Kingdom 6,919; West Germany 3,280; Netherlands 1,608; Belgium 1,280.
Iron and steel:			
Iron ore thousand tons	9,087	9,273	U.S.S.R. 7,340; Sweden 775; India 335; Guinea 324; Norway 101.
Pig iron do	313	793	U.S.S.R. 405; Czechoslovakia 194; Finland 93.
Ferroalloys	2,545	1,848	U.S.S.R. 1,149; Norway 240; East Germany 199.
Steel ingots and semimanufactures	443,800	497,743	Czechoslovakia 252,592; U.S.S.R. 67,869; Hungary 34,229; East Germany 16,453; Rumania 11,737.
Lead:			
Metal	20,862	19,647	Bulgaria 7,651; U.S.S.R. 5,868; Yugoslavia 3,686; Czechoslovakia 1,476.
Magnesium	280	300	Norway 250; Italy 50.
Manganese:			
Ore	380,200	347,908	U.S.S.R. 247,596; Cuba 45,807; India 34,723; United Kingdom 10,053.
Peroxide	3,700	3,566	U.S.S.R. 1,088.
Mercury 76-pound flasks	4,796	9,022	United Kingdom 3,580; Yugoslavia 1,160; Netherlands 1,160.
Molybdenum concentrate	[r] 329	107	Mainland China 102; North Korea 5.
Tin long tons	2,517	2,517	United Kingdom 1,400; Malaysia 405.
Titanium:			
Tungsten concentrate	2,673	2,328	United Kingdom 1,016; Mainland China 800; U.S.S.R. 380.
Zinc:			
Concentrate	167,200	146,132	Canada 58,117; Netherland 23,304; the United States 19,945; Yugoslavia 11,634; Finland 8,524.
Metal and dust	5,991	4,573	Bulgaria 4,239; North Korea 334.
Nonmetals:			
Asbestos	21,702	32,512	U.S.S.R. 18,935; Canada 5,954; United Kingdom 2,797; Italy 2,051; Mainland China 1,751.
Barite	5,207	7,023	All from Mainland China.
Bentonite	8,807	3,707	Yugoslavia 2,461; Hungary 1,245.
Cement	147,100	321,251	U.S.S.R. 130,128; Czechoslovakia 111,268; Rumania 40,042; Hungary 39,813.
Cryolite	1,616	1,460	All from the U.S.S.R.
Diatomaceous earth	484	602	Austria 312; Belgium 289.
Fertilizer materials:			
Nitrogenous	51,000	285,000	Czechoslovakia 74,000; Norway 65,000; West Germany 53,000; Hungary 27,000.
Phosphatic:			
Apatite concentrate thousand tons	432	557	U.S.S.R. 518; North Viet Nam 39.
Other do	562	655	Morocco 419; Egypt 83; Tunisia 65; Cuba 54.
Potassic do	986	1,273	East Germany 926; West Germany 195; Israel 90.
Fluorspar	26,800	30,262	Mainland China 17,050; East Germany 11,109; Italy 1,193.
Graphite	10,518	10,572	Czechoslovakia 8,091; U.S.S.R. 1,137; Mainland China 708.
Kaolin	77,700	71,181	Czechoslovakia 52,288; East Germany 15,384; Austria 1,623.
Magnesite	122,500	159,616	North Korea 82,173; Czechoslovakia 43,690; Yugoslavia 26,167; mainland China 5,000.
Mica	953	1,102	India 855; Rumania 150.

See footnotes at end of table.

Table 3.—Poland: Imports of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Nonmetals—Continued			
Refractory clays	10,100	22,284	U.S.S.R. 12,096; East Germany 4,372; West Germany 2,601.
Sulfur, elemental	19,500	7,000	All from mainland China.
Talc, powder	10,327	17,801	North Korea 14,375; mainland China 1,149; Austria 920; Norway 446.
Mineral fuels:			
Coal:			
Anthracite ...... thousand tons	20	35	All from the U.S.S.R.
Bituminous ...... do	1,279	1,210	U.S.S.R. 909; East Germany 301.
Brown coal including briquets thousand tons	631	637	All from East Germany.
Coke ...... do	9	---	
Gas, natural ...... million cubic feet	11,128	13,281	All from the U.S.S.R.
Petroleum:			
Crude ...... thousand tons	1,708	3,215	All from the U.S.S.R.
Refinery products: [1]			
Gasoline ...... do	2,929	2,248	U.S.S.R. 1,456; Rumania 276.

[r] Revised.

[1] No breakdown reported.

Source: Rocznik Statystyki Handlu Zagranicznego 1965 (Annual Statistics of Foreign Trade 1965) Warsaw 1965, pp. 240.

Portugal

Table 1.—Portugal: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum, alloys and secondary	303	354	260	366	NA
Antimony concentrate	---	NA	21	21	6
Arsenic, white	575	564	[r] 372	[e] 400	[e] 300
Beryl, 10 percent BeO	17	2	18	40	[e] 40
Columbite-tantalite concentrates (70 percent Ta_2O_5 and Cb_2O_5)	15	10	3	5	5
Copper:					
In cupriferous pyrites	3,167	3,025	4,119	4,176	NA
In other ores and concentrates	148	180	167	114	NA
In copper precipitates	80	85	79	64	NA
Total mine production	3,395	3,290	4,365	4,354	3,810
Copper sulfate	13,212	11,326	9,381	10,024	7,125
Refined	4,766	4,584	[r] 3,392	3,744	3,821
Gold:					
In ores thousand troy ounces	22	22	21	22	18
Refined do	3	1	8	NA	NA
Iron and steel:					
Iron ore:					
Hematite and magnetite thousand tons	233	224	172	165	134
Manganiferous do	29	39	43	46	52
Pig iron and cast iron do	222	235	263	269	241
Ferroalloys:					
Ferromanganese	399	717	672	6,912	7,985
Ferrosilicon	2,832	4,944	4,707		
Ferrotungsten	---	---	---	218	246
Ingots and other primary forms:					
Linz-Donawitz thousand tons	163	185	207	232	214
Electric do	11	37	43	41	56
Total do	174	222	250	273	270
Semimanufactures:					
Heavy sections do	7	9	7	22	NA
Light sections do	49	107	120	139	NA
Wire rod do	41	47	43	44	NA
Other do	52	9	33	24	NA
Total do	149	172	203	229	234
Lead:					
Concentrates:					
Gross weight	74	374	329	224	2,523
Lead content	44	224	196	[r] 152	1,722
Refined:					
Primary	2,020	1,118	1,366	[r] 1,308	1,052
Secondary, and alloys	1,038	2,999	3,666	3,457	NA
Manganese ore, 38 to 42 percent Mn	11,490	8,558	[r] 6,995	7,765	8,607
Silver:					
In ores thousand troy ounces	53	48	49	63	53
Refined do	178	116	178	NA	NA
Tin:					
Concentrates:					
Gross weight long tons	825	875	966	809	832
Metal content do	679	718	[r] 676	583	589
Metal do	766	663	589	[r] 603	552
Titanium ore (ilmenite) 50 percent TiO_2	68	41	[r] 57	75	252
Tungsten concentrates:					
Gross weight	2,031	1,330	[r] 1,451	1,350	1,657
Tungsten trioxide content	1,502	971	[r] 1,060	986	1,210
Uranium oxide (U_3O_8) [e]	[r] 10	[r] 10	[r] 20	[r] 40	[e] 40

See footnotes at end of table.

Table 1.—Portugal: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals—Continued					
Zinc concentrates 42 percent Zn:					
Gross weight	27	429	2,267	7,570	5,639
Zinc content	11	172	952	2,954	2,199
Nonmetals:					
Asbestos	---	26	---	49	9
Barite	1,351	1,658	348	3,308	956
Cement, hydraulic:					
Cement thousand tons	1,401	1,433	1,622	1,580	1,722
Clinker do	118	115	212	NA	NA
Total do	1,519	1,548	1,834	NA	NA
Clays do	273	222	257	NA	NA
Diatomite	1,450	1,875	[r] 2,002	2,627	1,449
Dolomite	3,800	3,920	5,370	2,975	NA
Feldspar	3,733	402	11,170	[r] 8,296	[e] 8,300
Fertilizer materials, manufactured:					
Nitrogenous:					
Ammonium sulfate thousand tons	181	249	245	[r] 278	227
Calcium cyanamid do	6	10	9	[r] 8	10
Calcium nitrate do	17	16	21	[r] 23	15
Ammonium nitrate do	84	169	193	[r] 194	175
Ammonium sulfate nitrate do	10	6	5	[r] 3	5
Urea and other elementary fertilizers thousand tons	---	1	18	29	39
Total do	298	451	491	[r] 535	471
Phosphatic and superphosphates do	420	442	431	[r] 430	387
Mixed and other do	93	108	140	[r] 147	161
Total do	811	1,001	1,062	[r] 1,112	1,019
Gypsum	72,259	60,090	64,979	80,928	[e] 80,000
Kaolin	43,490	37,985	38,293	38,863	33,076
Lime, hydraulic	158,223	158,000	165,808	160,465	NA
Pyrites:					
Cupriferous	315,614	298,375	412,182	NA	557,856
Other	325,679	303,693	195,219	NA	---
Total, 46 percent sulfur	641,293	602,068	607,401	613,392	557,856
Sulfur content	294,995	276,951	279,404	283,540	256,614
Quartz	11,292	10,397	24,328	NA	NA
Quartzite	9,022	23,534	8,358	192,242	NA
Salt:					
Evaporated thousand tons	315	268	232	[e] 230	[e] 220
Rock salt do	74	79	89	90	100
Sand and gravel do	420	359	573	501	NA
Stone, not elsewhere specified:					
Marble do	23	41	56	49	NA
Granite do	540	447	211	634	NA
Slate do	86	76	79	85	NA
Limestone and marl do	2,944	1,917	1,988	2,252	NA
Porphyry and schist do	164	161	174	184	NA
Other stone	49	49	40	58	NA
Sulfur, ground, precipitated or sublimed	10,763	9,119	6,130	NA	NA
Talc	326	540	[r] 800	710	800
Mineral fuels:					
Coal:					
Anthracite thousand tons	405	416	444	428	418
Lignite do	153	142	101	90	51
Briquets do	45	45	41	34	[e] 35
Coke, gas do	31	25	10	13	[e] 15
Manufactured gas thousand cubic feet	2,825	2,966	3,143	3,214	NA
Petroleum refinery products:					
Gasoline thousand tons	362	380	379	391	399
Kerosine do	153	166	184	199	185
Jet fuel do	12	32	29	39	75
Gas oil do	256	290	322	331	371
Residual fuel oil do	456	510	570	596	567
Butane and propane do	50	56	46	45	39
Other petroleum gases do	17	20	23	27	34
Other petroleum products do	19	17	17	20	18
Total do	1,325	1,471	1,570	1,648	1,688

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

Table 2.—Portugal: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, all forms	68	134	NA.
Arsenic, white	499	354	NA.
Beryl	---	55	NA.
Copper:			
Ore and concentrate	182	19	All to West Germany.
Matte	---	1,937	West Germany 1,591; Netherlands 302.
Metal, all forms	1,188	1,102	Italy 521; Angola 171; Spain 167.
Scrap	---	44	Angola 27; Spain 16.
Gold bullion and semimanufactures. troy ounces	32	170	NA.
Iron and steel:			
Iron ore and concentrate, including roasted pyrites.	23,190	6,825	All to West Germany.
Ashes and residues containing iron.	104	---	
Scrap	57,728	30,877	Spain 21,435; Sweden 9,027.
Pig iron and ferroalloys	23,709	4,438	West Germany 2,258; Belgium-Luxembourg 1,856.
Semimanufactures:			
Primary forms	39,805	13,799	Spain 8,192; Mozambique 5,607.
Shapes	1,944	817	Angola 435; Mozambique 62.
Plates and sheets	727	1,558	Angola 715; Mozambique 632.
Hoop and strip	107	125	Angola 74.
Railway track material	75	34	
Wire	318	826	United States 472; Angola 253.
Tubes, pipes, and fittings	7,791	7,545	Angola 3,121; Mozambique 2,271; West Germany 613.
Rough castings and forgings.	165	145	Mozambique 26; Angola 21.
Lead:			
Ore and concentrate	---	229	All to Spain.
Oxides	118	67	Republic of South Africa 34.
Metal, all forms	66	124	Angola 64; United States 10.
Manganese ore and concentrate	8,460	2,885	Belgium-Luxembourg 2,125; Netherlands 760.
Nickel, all forms	5	4	NA.
Platinum group, metals and alloys troy ounces	1,132	1,788	NA.
Silver and alloys do	2,325	3,542	NA.
Tantalum ore and concentrate	26	21	NA.
Tin:			
Ore and concentrate long tons	122	35	United Kingdom 20; United States 15.
Metal, all forms do	375	238	United States 180.
Tungsten ore and concentrate	1,468	1,357	Netherlands 655; United Kingdom 299; Austria 287.
Zinc:			
Ore and concentrate	729	8,433	France 7,928; Spain 505.
Metal, all forms	103	226	NA.
Molybdenum, titanium, vanadium, and zirconium ores.	2,680	51	NA.
Ashes and residues, n.e.s. containing nonferrous metals.	2,839	743	Belgium-Luxembourg 134.
Nonferrous base metals, n.e.s	4	3	NA.
Nonmetals:			
Abrasives:			
Natural (diatomite, pumice, and other).	553	524	Angola 112.
Manufactured, (grindstones, paper, cloth, and powder).	353	597	NA.
Asbestos:			
Crude	2	42	NA.
Asbestos cement and cement products.	518	627	NA.
Barite and witherite, natural	109	20	NA.
Cement	391,732	234,353	Spain 210,410.
Chalk	221	232	NA.
Clays, clay products, and refractory products, n.e.s:			
Crude:			
Kaolin	10,965	10,587	NA.
Other clays	345	2,941	NA.
Construction materials:			
Brick and other nonrefractory	26,068	23,530	Spain 12,007; Angola 2,530; Mozambique 1,432.
Refractory	1,220	1,459	Angola 1,008; Mozambique 257.
Diamond, gem thousand carats	675	1,148	NA.

See footnotes at end of table.

Table 2.—Portugal: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1065	Principal destinations, 1965
Nonmetals—Continued			
Feldspar	3,787	9,639	United Kingdom 4,948; Italy 1,103.
Fertilizer materials, manufactured:			
Nitrogenous	131,422	86,857	Spain 35,204; Turkey 18,296; United Kingdom 13,006.
Phosphatic	80,430	44,224	Turkey 15,358; Greece 10,000; Pakistan 5,941; Cyprus 5,339.
Potassic	535	1,474	Angola 1,195; Mozambique 202.
Mixed	17,381	24,116	Cyprus 11,709; Syria 3,960; Angola 3,174
Gypsum and anhydrite	264	202	NA.
Lime, hydraulic	1,259	1,786	Mozambique 858.
Mica	30	847	Italy 755.
Pigments, mineral	140	131	NA.
Pyrites, unroasted	294,198	318,631	Belgium-Luxembourg 170,701; West Germany 92,940.
Quartz and quartzite	6,897	12,972	Italy 8,950; West Germany 3,992.
Stone, sand and gravel:			
Slate:			
Crude or rough split	9,664	9,224	Belgium-Luxembourg 4,434; United Kingdom 1,680; France 1,151.
Slate products	3,465	3,325	West Germany 1,121; Belgium-Luxembourg 542; Netherlands 458.
Other building and dimension stone:			
Crude or rough cut:			
Marble and other calcareous.	92,291	122,823	Italy 74,136; Belgium-Luxembourg 12,695; West Germany 21,129.
Granite, sandstone, and porphyry.	1,779	1,062	Italy 725.
Sand, natural not mineral bearing.	21	16,666	NA.
Gravel and crushed stone	2,070	2,719	Mozambique 744; United Kingdom 399.
Dimension stone further worked:			
Paving, curb, and flagstones.	156,578	153,636	West Germany 95,525; France 18,982; Netherlands 17,764.
Building stone	16,790	19,050	United States 9,020; Netherlands 3,099.
Sulfur, elemental, all forms	155	647	NA.
Nonmetallic minerals, n.e.s	903	711	NA.
Mineral fuels:			
Asphalt and bitumen, natural	494	338	NA.
Coal, coke, and briquets	252	224	NA.
Coal distillation products	46	25	NA.
Petroleum refinery products:			
Gasoline	58,168	43,574	United Kingdom 25,444; Nigeria 6,294; Republic of South Africa 3,206.
Kerosine	86,243	107,889	Netherlands 57,161; United Kingdom 14,720; Denmark 8,609; bunkers 22,709.
Distillate fuel oil	63,843	9,312	Bunker 1,924.
Residual fuel oil	47,309	69,614	Morocco 20,714; Netherlands 10,185; Senegal 3,164; bunkers 34,612.
Lubricants	3,129	4,608	Angola 2,152; Mozambique 1,798.
Nonchemical coal and petroleum waste.	1,070	952	Mozambique 16; Port West Africa 891.
Liquid petroleum gases	235	803	Denmark 310; Port West Africa 257.

NA Not available.

Table 3.—Portugal: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Bauxite	1,706	3,532	France 2,770; Trinidad 762.
Alumina and aluminum hydroxide	236	366	West Germany 189; France 73.
Metal, unwrought, and scrap	816	1,220	France 580; United Kingdom 350; Canada 91.
Semimanufactures	6,394	7,311	Austria 1,355; West Germany 1,136; United Kingdom 908; Canada 750; Belgium-Luxembourg 714.
Chromium:			
Chromite	37	108	NA.
Oxides and hydroxide	58	72	West Germany 46; United Kingdom 16.
Cobalt	3	2	NA.
Copper:			
Ore and concentrate	---	104	United Kingdom 84.
Matte	---	1,938	NA.
Scrap	358	136	Angola 42; Mozambique 37.
Blister	1,274	2,286	Zambia 2,082.
Refined, unwrought	4,105	6,008	Belgium-Luxembourg 2,205; United Kingdom 905; France 801; Canada 717.
Master alloys	13	11	NA.
Semimanufactures	5,219	5,561	United Kingdom 1,789; Italy 1,414; West Germany 623.
Gold, bullion and semimanufactures troy ounces	1,404	170	NA.
Iron and steel:			
Iron ore including roasted pyrites	38,497	78,598	Spain 50,340; Brazil 22,977.
Scrap	1,393	4,671	United Kingdom 2,079; Belgium-Luxembourg 525; Morocco 398.
Pig iron and ferroalloys [1]	938	1,816	United Kingdom 816; Finland 400; West Germany 287.
Steel ingots and other primary forms.[2]	1,739	5,882	West Germany 2,449; Finland 1,382; United Kingdom 1,066.
Semimanufactures:			
Shapes	35,061	69,852	Belgium-Luxembourg 28,215; West Germany 16,859.
Plates and sheets:			
Uncoated	80,747	124,614	West Germany 48,143; France 24,159; Belgium-Luxembourg 22,589; United Kingdom 14,416.
Tinplate	46,972	52,749	United Kingdom 16,846; West Germany 14,491; France 14,326.
Other coated	11,837	11,836	NA.
Hoop and strip	51,484	38,495	Belgium-Luxembourg 14,681; France 12,539; West Germany 6,952.
Railway track material	8,461	5,662	France 3,316; Belgium-Luxembourg 543; Austria 307.
Wire	16,022	15,541	United Kingdom 5,501; Belgium-Luxembourg 5,396.
Tubes, pipes, and fittings	7,590	10,328	West Germany 5,399; France 1,628; Italy 773; United Kingdom 704.
Rough castings and forgings	334	463	United Kingdom 242; West Germany 101.
Lead and alloys:			
Oxides	6	9	NA.
Scrap	96	74	NA.
Unwrought and semimanufactures	9,052	6,846	Republic of South Africa 3,139; Peru 1,472; United Kingdom 735.
Magnesium, all forms	6	9	NA.
Manganese:			
Ore and concentrate	262	239	United Kingdom 183; Netherlands 36.
Oxides	67	84	France 84.
Mercury:			
Oxides kilograms	1,400	800	NA.
Metal 76-pound flasks	679	249	All from Spain.
Nickel, all forms	214	254	United Kingdom 138; West Germany 68.
Platinum and platinum group metals troy ounces	1,501	7,663	NA.
Silver, all forms troy ounces	1,025,585	727,040	West Germany 616,830; United Kingdom 94,360; Belgium-Luxembourg 13,117.
Tin:			
Oxides long tons	17	22	United Kingdom 19.
Metal, all forms do	36	25	United Kingdom 16; West Germany 5.

See footnotes at end of table.

Table 3.—Portugal: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Titanium:			
Ore and concentrate, rutile	203	346	NA.
Oxides	2,031	2,192	West Germany 686; United Kingdom 595; Finland 433.
Tungsten, all forms kilograms	1,500	100	NA.
Zinc and alloys:			
Zinc oxides	304	296	Belgium-Luxembourg 123; West Germany 73; United Kingdom 37.
Scrap	172	258	Sweden 79; Netherlands 61.
Unwrought	4,887	5,849	Belgium-Luxembourg 2,558; France 1,439.
Semimanufactures	288	256	West Germany 205.
Metalliferous ores and concentrates, n.e.s.	151	165	NA.
Ashes and residues containing nonferrous metals.	4	8	NA.
Nonferrous base metals, n.e.s	71	120	West Germany 63; United Kingdom 32; Belgium-Luxembourg 17.
Nonmetals:			
Abrasives:			
Natural:			
Dust and powder from gemstones thousand carats	---	316	NA.
Diatomite	1,216	1,517	United States 742; France 327; Italy 215.
Pumice and other natural	650	790	Italy 360; Netherlands 277.
Manufactured:			
Corundum, artificial	366	414	NA.
Grindstones and whetstones	195	224	United Kingdom 97; West Germany 50.
Asbestos	2,511	3,878	Canada 1,639; Republic of South Africa 1,248; Rhodesia 544.
Barite	184	201	West Germany 114.
Boron salts, natural	20	---	
Cement, hydraulic	891	809	France 532; West Germany 140.
Chalk	1,267	1,500	France 1,034.
Clays, clay products and refractory products, n.e.s.:			
Crude:			
China clay	257	273	NA.
Bentonite	1,571	1,605	
Other	3,187	2,682	
Construction materials:			
Bricks and other nonrefractory.	241	286	West Germany 34.
Refractory	3,397	5,040	West Germany 1,131; Austria 1,088; Morocco 928; United Kingdom 449.
Cryolite and chiolite	30	46	All from Denmark.
Dolomite	1,214	3,564	Spain 2,329; Norway 594; Italy 585.
Feldspar	861	641	United Kingdom 260.
Fertilizer materials:			
Natural:			
Animal or vegetable, crude	257	389	France 349.
Sodium nitrate	3,085	231	West Germany 206.
Phosphate rock	256,390	274,978	Morocco 269,624.
Manufactured:			
Nitrogenous	106	7,165	West Germany 4,123; Belgium-Luxembourg 2,023.
Phosphatic:			
Basic slag	14,541	10,639	Belgium-Luxembourg 10,339.
Other	738	1,383	Belgium-Luxembourg 695; France 688.
Potassic	24,538	33,880	All from Spain.
Mixed	16,088	23,100	West Germany 14,217; Italy 8,256.
Graphite, natural	111	132	West Germany 52.
Gypsum and anhydrite	15,644	14,244	Morocco 13,210.
Magnesite	542	249	Netherlands 148.
Mica, crude and scrap	131	147	Norway 108; United Kingdom 23.
Mica products	8	10	United Kingdom 4; Switzerland 2.
Mineral pigments	118	107	France 29.
Pyrites, unroasted	---	---	
Quartz and quartzite	1,450	1,350	Belgium-Luxembourg 1,169.
Salt	9,688	28,063	Spain 6,101; Angola 1,487.
Sand	1,030	3,170	United States 1,471; West Germany 825; Belgium-Luxembourg 767.

See footnotes at end of table.

Table 3.—Portugal: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Stone:			
Slate, crude, or rough split	---	1	NA.
Marble	32	123	NA.
Granite, porphyry, basalt	140	33	NA.
Flint and crushed stone	445	1,737	United States 1,297.
Total stone, all types	617	1,894	NA.
Sulfur, elemental, all types	38,155	54,727	France 42,149; United States 9,272; West Germany 2,293.
Talc and soapstone	1,943	1,950	Norway 771; France 712; Italy 269.
Crude nonmetallic minerals, n.e.s	9,191	4,536	Cape Verde Islands 4,122.
Mineral fuels:			
Asphalt and bitumen, natural	625	3,064	Spain 1,464; Hungary 996; Belgium-Luxembourg 532.
Carbon black	3,790	4,236	France 1,307; United States 821; West Germany 768; Netherlands 758.
Coal and coal briquets	406,489	427,895	Poland 177,549; United States 107,141; Czechoslovakia 62,030.
Coke from coal	245,686	216,564	United Kingdom 61,957.
Coal distillation products	7,763	6,835	United Kingdom 3,750; United States 722; Italy 597.
Petroleum:			
Crude	1,519,269	1,716,815	Iraq 1,295,696; Bahrain 297,941; Angola 96,736.
Refinery products:			
Gasoline	52,191	91,297	Spain 35,378; Netherlands Antilles 25,167; Italy 15,995; Iran 14,568.
Kerosine, white spirit, jet fuel	23,366	23,263	Netherlands Antilles 20,818; Netherlands 1,640.
Distillate fuel oil	416,302	334,096	Netherlands Antilles 126,638; Iran 58,355; Kuwait 32,392.
Residual fuel oil	175,431	302,349	Mozambique 99,848; Netherlands Antilles 60,718; Angola 51,505.
Lubricants	41,163	48,471	Netherlands 15,474; United Kingdom 13,804; United States 10,966.
Mineral jelly and waxes	3,929	3,394	United States 2,283; United Kingdom 911.
Nonlubricating oils, n.e.s	5,738	7,936	Netherlands 3,136; France 2,876.
Pitch and pitch coke	2,369	6,323	United Kingdom 5,408; Spain 891.
Petroleum coke	13,360	294	NA.
Petroleum and shale oil wastes	28,196	25,589	Netherlands 11,839; Spain 10,697.
Liquid petroleum gases	59,425	88,680	France 80,718; Netherlands 4,092.
Other	1,574	2,306	United Kingdom 1,314; Spain 686.

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[r] Revised.

[1] Includes powder, shot, and sponge, and rough castings.

[2] Includes coils for rerolling.

Qatar

Table 1.—Qatar: Production of petroleum and petroleum products

(Thousand 42-gallon barrels)

Commodity	1962	1963	1964	1965	1966
Petroleum:					
Crude	67,911	70,158	77,885	84,215	105,945
Refinery products: [e]					
Gasoline	60	51	59	64	60
Kerosine	30	27	32	35	36
Distillate fuel oil	50	47	50	56	50
Residual fuel oil	---	61	---	---	---
Other	5	4	4	---	---
Refinery fuel and loss	5	NA	73	75	75

[e] Estimate. NA Not available.

Table 2.—Qatar: Exports and imports of petroleum and refinery products [1]

(Thousand 42-gallon barrels)

Commodity	1964	1965	1966
Exports:			
Petroleum, crude	77,510	83,354	[e] 105,724
Imports: [e]			
Petroleum refinery products:			
Gasoline	96	90	100
Kerosine	30	30	35
Distillate fuel oil	35	35	35
Lubricants, including grease	6	6	7

[e] Estimate.

[1] Data on destinations and origins not reported in detail.

Southern Rhodesia

Table 1.—Southern Rhodesia: Production of mineral commodities
(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony, content of concentrate	55	60	44	[e][r] 185	NA
Arsenic, white	1,095	549	187	[e][r] 65	NA
Bauxite	508	1,842	2,478	[r] 2,000	NA
Beryl	507	226	165	[1][r] 92	[1] 65
Cesium mineral:					
Pollucite	19	---	24	NA	NA
Chromite	460,565	374,116	447,576	[e] 566,500	[2] 500,000
Copper:					
Mine, content of concentrates	13,740	16,773	16,639	[r] 17,962	[e] 17,200
Smelter, fire-refined copper	12,337	14,685	15,239	[e][r] 17,100	[e] 17,100
Gold ... troy ounces	554,647	566,277	575,386	[r] 544,100	[e] 550,000
Iron and steel:					
Iron ore ... thousand tons	619	655	824	[e][r] 1,360	NA
Pig iron ... do	241	236	318	[r] 250	260
Ferroalloys, ferrochrome (exports) ... do	8	14	23	NA	NA
Steel ingots and castings ... do	88	84	128	[r] 130	130
Manganese ore	7,237	---	145	[e][r] 206	NA
Nickel, content of concentrate	78	119	[r] 157	[e][r] 700	[e] 700
Silver ... troy ounces	83,540	83,742	88,463	[e][r] 95,470	[e] 95,000
Tantalum concentrate ... kilograms	72,493	[r] 68,500	64,101	[e][r] 28,560	[e] 27,220
Tin:					
Mine, content of concentrate ... long tons	706	498	512	[r] 510	[e] 600
Smelter ... do	679	499	511	[r] 494	[e] 480
Tungsten ore and concentrate, 60 percent WO_3	22	[r] 3	---	[r] 28	NA
Nonmetals:					
Asbestos	128,997	129,051	139,208	[r] 159,800	[e] 160,000
Barite	---	1,772	1,416	[e] 1,400	NA
Cement [e] ... thousand tons	250	250	250	250	250
Corundum	3,037	5,389	2,604	[e][r] 4,200	[e] 4,200
Diatomite including tripoli	384	273	315	[e][r] 480	[e] 480
Feldspar	---	---	---	[e] 170	NA
Fire clay	13,910	13,180	12,455	13,274	NA
Fluorspar	18	311	70	[e][r] 150	NA
Kaolin	---	11,104	19,051	NA	NA
Kyanite	---	54	233	NA	NA
Limestone	615,420	533,173	540,251	NA	NA
Lithium minerals:					
Amblygonite	32	47	---	---	NA
Eucryptite	786	1,056	731	[e][r] 640	NA
Lepidolite	19,272	14,657	[r] 20,814	[e][r] 16,100	NA
Petalite	19,690	27,167	33,066	[e][r] 27,100	NA
Spodumene	1,357	2,028	[r] 6,319	[e][r] 13,900	NA
Magnesite	10,541	10,947	38,474	[e][r] 35,600	[e] 30,000
Mica:					
Block	15	[r] 7	34	[r] 29	NA
Crude and scrap	[r] 8	[r] 102	71	[r] 82	NA
Phosphate rock	---	---	1,995	[e][r] 3,600	NA
Pyrite	51,265	[r] 66,100	82,431	[e][r] 82,000	NA
Quartz	10,575	19,054	28,311	NA	NA
Quartzite	236	200	181	NA	NA
Semiprecious stones:					
Agate ... kilograms	340	---	---	NA	NA
Amazonite ... do	---	---	66	NA	NA
Amethyst ... do	---	901	288	NA	NA
Aquamarine ... do	---	109	107	NA	NA
Chrysoberyl ... do	10	16	15	NA	NA
Cordierite ... do	---	1	4	NA	NA
Garnet ... do	---	15	98	NA	NA
Jade ... do	2,721	1,814	3,629	NA	NA
Topaz ... do	---	76	7	NA	NA
Tourmaline ... do	---	57	3	NA	NA
Silica sand	---	2,021	3,268	NA	NA
Talc	21	19	14	[e][r] 82	NA
Mineral fuels:					
Coal, bituminous ... thousand tons	2,826	2,740	3,044	NA	NA
Coke ... do	102	92	130	[e] 100	[3] 185

[e] Estimate. [r] Revised NA Not available.
[1] United States imports.
[2] Conjectural.
[3] Including breeze.

Table 2.—Southern Rhodesia: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Antimony concentrate	164	211	United States 152; Belgium 59.
Beryllium ore and concentrate	144	86	All to United States.
Chromium ore and concentrate	455,673	635,089	United States 309,666; Republic of South Africa 186,186; Japan 38,546; United Kingdom 25,240.
Copper:			
Concentrate	7,135	6,978	Republic of South Africa 5,686; Japan 1,138.
Refined, unwrought	15,403	16,731	West Germany 10,241; Poland 1,731; Italy 1,587; United Kingdom 1,472.
Bar and rod and copper alloys	3,792	1,640	Malaya 1,291.
Gold value, thousands	[1] $19,832	[1] $19,023	NA.
Iron and steel:			
Iron ore	286,571	321,344	Japan 318,865.
Pig iron	218,396	214,432	Japan 207,513.
Ferrochrome	22,700	21,326	United Kingdom 7,720; Australia 2,551; Sweden 2,550.
Iron and steel scrap	3	31	NA.
Iron and steel billets, ingots, equivalent forms.	33,958	23,213	Republic of South Africa 22,498.
Semimanufactures:			
Bars, rods, angles, shapes	11,235	26,088	Zambia 19,071; Democratic Republic of the Congo (Léopoldville) 2,556.
Other	9,300	7,230	Zambia 4,544; Malawi 1,024.
Total	20,535	33,318	
Nickel, ore and concentrate	NA	NA	
Silver, bullion troy ounces	96,280	83,285	United Kingdom 81,568.
Tantalum, ore and concentrate	75	34	United Kingdom 17; United States 10.
Tin:			
Ore and concentrate long tons	54	71	All to Netherlands.
Ingot do	473	399	Republic of South Africa 393.
Tungsten, ore and concentrate	---	26	United Kingdom 24.
Metallic ores, concentrate, etc. not further described value, thousands	$127	$902	Japan $833.
Nonferrous metal scrap	3,960	2,529	Republic of South Africa 1,195; West Germany 256.
Nonferrous metals not further described value, thousands	$314	$422	Malawi $158; Zambia $157; Republic of South Africa $67.
Nonmetals:			
Asbestos	161,316	167,406	United Kingdom 38,818; West Germany 15,619; Republic of South Africa 15,183.
Barite	1,539	1,875	All to Republic of South Africa.
Cement	5,843	14,576	Zambia 11,468; Bechuanaland 2,008.
Corundum	3,020	3,260	Republic of South Africa 1,601; United States 1,291.
Fertilizer materials, manufactured	22,958	33,356	Zambia 29,289; Malawi 3,406.
Lithium ores	67,389	50,733	United States 15,326; Belgium 14,972; United Kingdom 6,510.
Magnesite	23,770	34,102	Republic of South Africa 34,086.
Quartz, mica, feldspar, fluorspar	352	2,854	Libya 1,154; Norway 363; West Germany 254.
Crude minerals not further described value, thousands	$74,698	$530,128	Republic of South Africa $207,970; Zambia $207,385.
Mineral fuels:			
Coal, bituminous thousand tons	1,342	1,634	Zambia 1,157; Democratic Republic of the Congo (Léopoldville) 52.
Coke do	105	146	Zambia 60; Democratic Republic of the Congo (Léopoldville) 52.
Petroleum refinery products:			
Asphalt and bitumen	1,937	4,412	Zambia 4,384.
Mineral fuels and related materials not further described value, thousands	$123	$5,807	Zambia $5,600.
Electric energy value, thousands	$11,836	$12,410	All to Zambia.

NA Not available.

[1] Net sales.

Table 3.—Southern Rhodesia: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965		
			Sources	
		Total	Republic of South Africa	Principal sources except Republic of South Africa
Metals:				
Aluminum:				
Semimanufactures	711	962	684	United Kingdom 176.
Aluminum and alloys not further described.	219	237	110	United Kingdom 84; Israel 35.
Copper and copper alloys, all forms	6,519	4,283	625	Zambia 3,262; United Kingdom 62.
Iron and steel:				
Pig iron	377	199	198	
Ferroalloys	1,186	1,395	1,352	
Iron and steel ingots	74	67	29	United Kingdom 36.
Semimanufactures	99,991	95,564	48,590	United Kingdom 13,230; Japan 11,537.
Lead and lead alloys, all forms	753	851	17	Zambia 784; Malawi 45.
Nickel and nickel alloys, all forms	17	49	46	
Tin and tin alloys, all forms ... long tons	79	77	32	United Kingdom 42.
Zinc and zinc alloys, all forms	111	774	40	Zambia 609; Democratic Republic of the Congo (Léopoldville) 122.
Nonferrous metals not further described	81	136	61	Belgium 34; United Kingdom 23.
Metalliferous ores and metal scrap value, thousands	$646	$510	$44	Zambia $294; Mozambique $118.
Nonmetals:				
Abrasives, wheels, disks, etc	182	181	129	United Kingdom 32.
Bricks, refractory ... number, thousands	1,283	1,034	844	Austria 143.
Cement:				
Hydraulic	3,587	1,464	286	Zambia 812; United Kingdom 330.
Fire and furnace	904	619	441	United Kingdom 170.
Fertilizer materials:				
Crude, not further described	84,009	69,208	403	Senegal 65,267; Chile 3,538.
Manufactured:				
Nitrogenous:				
Ammonium sulfate	56,999	66,142	44	Netherlands 34,797; West Germany 26,041.
Urea	23,953	37,918	---	Netherlands 19,944; Norway 5,280; Italy 4,028.
Other nitrogenous	65,937	80,863	5	United States 29,056; Belgium 18,585; West Germany 10,835; Netherlands 10,692.
Phosphatic:				
Superphosphate	5,827	2,417	2,414	
Other, not further described	6,189	10,982	1,023	United States 8,466.
Potassic	38,246	29,811	2	France 14,153; West Germany 11,437.
Other, not further described	1,068	243	21	United States 73; United Kingdom 25.
Gypsum and plaster of paris	9,426	7,878	7,708	United Kingdom 94.
Potash compounds other than fertilizers	239	193	36	Sweden 56; West Germany 43; United Kingdom 19.
Salt	29,772	40,026	25,033	Angola 8,484.
Mineral fuels:				
Solid fuels, coal and coke	12,650	10,035	10,035	
Petroleum:				
Crude ... thousand 42-gallon barrels	---	[1] NA	---	
Refinery products:				
Gasoline ... do	1,358	521	2	Iran 382; Bahrain 127.
Kerosine ... do	510	348	(2)	Iran 259; Bahrain 57; Aden 29.
Distillate fuel oil ... do	1,121	351	(2)	Iran 217; Saudi Arabia 89; Bahrain 44.
Residual fuel oil ... do	7	1	---	All from Iran.
Lubricating oils	92	103	85	United States 7; West Germany 4.
Lubricating greases	1,139	1,246	793	United States 441.
Jellies and waxes	2,391	2,233	61	Indonesia 1,330; United States 442; West Germany 292.
Asphalt and bitumen	15,289	5,418	3,958	Iran 937.

See footnotes at end of table.

Table 3.—Southern Rhodesia: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965		
			Sources	
		Total	Republic of South Africa	Principal sources except Republic of South Africa
Mineral fuels—Continued				
Petroleum—Continued				
Refinery products—Continued				
Petroleum oils not further described thousand 42-gallon barrels	7,721	8,828	513	United States 2,638; United kingdom 2,089; West Germany 1,816.
Petroleum products not further described value, thousands	$91	$6,690	$14	Iran $6,529.
Electric energy do	$1,073	$984	---	Mozambique $713; Zambia $271.
Explosives, industrial:				
Prepared explosives	5,483	5,767	5,767	
Fuses	286	301	301	
Detonators number, millions	7,423	9,289	9,289	
Primers, caps, ignitors value, thousands	$121	$120	$117	

NA Not available.

[1] According to Diario de Mozambique, Beira, Mozambique, May 3, 1966, the equivalent of 4,186,000 barrels of crude petroleum was pumped from Beira to Umtali, Southern Rhodesia, from January 1965 to November 1965, when pumping ceased.

[2] Less than ½ unit.

Rumania

Table 1.—Rumania: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	[p] 1966
Metals:					
Aluminum:					
Bauxite	30,000	10,000	[r] 7,000	[r] [e] 80,000	[e] 200,000
Metal and alloys	---	---	---	[r] 22,795	46,851
Iron and steel:					
Iron ore ... thousand tons	1,738	2,286	[r] 1,932	2,479	2,500
Pig iron ... do	1,511	1,706	1,924	2,019	2,198
Steel ingots and castings ... do	2,451	2,704	3,039	3,426	3,670
Rolled products except pipe ... do	1,665	1,918	2,200	2,347	2,585
Pipe ... do	456	478	[r] 552	586	NA
Manganese ore	189,000	260,000	[r] [e] 100,000	[r] 126,000	[e] 136,000
Mercury ... 76-pound flasks	222	194	194	191	[e] 195
Lead (smelter) [e]	12,500	12,500	12,700	15,000	[e] 40,000
Silver [e] ... thousand troy ounces	643	643	643	643	643
Nonmetals:					
Barite	NA	NA	NA	45,000	[e] 50,000
Bentonite	NA	NA	NA	90,000	[e] 100,000
Cement ... thousand tons	3,489	4,369	4,752	5,405	5,886
Fertilizer materials:					
Nitrogenous (Nitrogen content)	43,950	84,850	107,981	166,307	[e] 219,000
Phosphatic (P_2O_5 content)	86,597	99,759	111,323	126,465	[e] 200,000
Kaolin	NA	NA	NA	35,000	[e] 40,000
Lime ... thousand tons	677	731	813	[r] 873	[e] 900
Pyrites (gross weight) ... do	305	333	409	[e] 410	[e] 350
Salt ... do	1,477	1,637	1,809	2,016	2,046
Sulfric acid ... do	326	343	350	360	[e] 365
Talc ... do	[e] 100	[e] 100	[e] 100	115	[e] 120
Mineral fuels:					
Coal:					
Bituminous including anthracite ... do	5,319	5,655	5,892	6,036	6,310
Brown ... do	587	558	5,231	598	7,141
Lignite ... do	3,683	4,054		5,461	
Coke ... do	1,119	1,141	1,145	1,135	1,103
Fuel briquets [e] ... do	300	300	300	300	325
Petroleum:					
Crude ... do	11,864	12,233	12,395	12,571	12,825
Refinery products:					
Gasoline ... do	2,400	2,434	2,500	2,458	[e] 2,500
Kerosine ... do	1,234	1,084	1,100	965	[e] 970
Gas oil ... do	2,910	3,110	3,200	3,600	[e] 3,600
Fuel oil ... do	3,952	4,059	[r] 3,831	3,773	[e] 3,800
Carbon black	29,521	33,177	35,394	36,704	[e] 37,000
Natural gas [2] ... million cubic feet	309,805	376,970	426,073	480,179	525,433

[p] Preliminary.
[r] Revised.
[e] Estimate.
NA Not available.
[1] In addition to listed commodities, Rumania produces antimony, chromite, copper, gold, molybdenum, zinc, asbestos, feldspar, gypsum, and mica, but quantitative data on production are not available.
[2] From 1965 includes associated gas.

Table 2.—Rumania: Reported exports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Manganese ore	-----	79,900
Steel:		
Rolled products	272,700	342,000
Pipes	235,400	235,200
Nonmetals:		
Cement	1,298,300	1,538,200
Salt	387,200	NA
Mineral fuels:		
Natural gas ... million cubic feet	717	700
Petroleum:		
Refinery products		
Gasoline	1,655,300	1,444,100
Kerosine	337,700	280,100
Diesel oil	1,899,400	1,979,100
Fuel oil	1,894,400	1,638,600
Lubricants	303,100	293,800
Paraffin	20,700	19,800
Petroleum coke	56,300	51,500
Bitumen (including natural)	104,900	106,200
Carbon black	18,600	17,300

[1] Source does not contain information on country of destination.

Source: Anuarul Statistic Al R.P.R.—1966 (Statistical Yearbook of R. P. Rumania for 1966).

Table 3.—Rumania: Exports of selected mineral commodities to the Soviet Union

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Lead, metal	3,200	4,500
Iron and steel:		
Steel ingots	10,100	78,800
Primary forms for rerolling and rolled products	161,800	281,500
Pipes	215,000	188,200
Zinc	-----	2,400
Nonmetals:		
Barite	4,000	8,000
Cement	312,000	-----
Minerals fuels:		
Petroleum:		
Refined products:		
Gasoline	1,164,500	942,000
Kerosine	150,000	167,400
Diesel Fuel	202,900	200,700
Heating oil	52,500	50,000
Lubricants	139,800	133,800
Paraffin	12,100	12,000
Bitumen	72,300	66,100

Source: Vneshnaya Torogovlya SSSR za 1965 god (Foreign Trade of the U.S.S.R. for 1965)—Moscow.

Table 4.—Rumania: Reported imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Iron and Steel:		
Iron ore thousand tons	2,305	2,623
Ferroalloys	43,000	52,600
Rolled products thousand tons	1,213	1,117
Pipes	142,900	81,500
Nonmetals:		
Fertilizers:		
Apatite concentrate (P_2O_5)	94,500	174,300
Potassic fertilizers (K_2O content)	8,800	13,300
Nitrogenous fertilizers (N content)	1,900	NA
Mineral fuels:		
Coking coal	717,800	706,300
Coke	945,600	926,800

[1] Source does not contain information on countries of origin.

Source: Anuarul Statistic Al R.P.R. 1965 (Statistical Yearbook of P.R. Rumania for 1965) Bucaresti, Rumania, 709 pp.

Table 5.—Rumania: Imports of selected mineral commodities from the Soviet Union

(Metric tons unless otherwise specified)

Commodity [1]	1964	1965
Metals:		
Aluminum:		
Ingots	14,700	5,600
Semimanufactures	621	595
Copper:		
Copper, metal	5,900	5,900
Semimanufactures	2,115	2,601
Iron and steel:		
Iron ore thousand tons	1,667	1,714
Pig iron	209,100	357,900
Ferroalloys	41,800	44,600
Rolled products	805,200	796,600
Pipes	32,200	16,100
Tin:		
Semimanufactures and alloys	114	186
Nonmetals:		
Asbestos	3,300	4,500
Apatite concentrate	117,400	254,200
Cryolite	300	200
Refractories	20,600	23,600
Sulfur	2,100	4,400
Mineral fuels:		
Bituminous coal thousand tons	201	251
Coke metallurgical do	599	541
Petroleum:		
Refinery products		
Lubricants	600	600

[r] Revised.

[1] Rumania imported 18.8 million kilowatt hours of electric power in 1966 and 33.2 million in 1965.

Source: Vneshnaya Torogovlya SSSRnza 1965 god (Foreign Trade of the U.S.S.R. for 1965, Moscow.)

Rwanda

Table 1.—Rwanda: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Beryl	357	256	298	[r][2] 151	133
Columbite-tantalite concentrate	37	30	29	50	25
Gold .... troy ounces	29	NA	NA	NA	NA
Tin:					
Cassiterite concentrate [3] .... long tons	1,809	1,866	2,020	2,006	1,855
Content of concentrate .... do	1,325	1,271	[r] 1,360	[e] 1,424	[e] 1,340
Tungsten: Wolframite ore and concentrate	138	12	138	[r] 253	363
Nonmetals:					
Lithium mineral (amblygonite)	326	368	295	---	NA
Mineral fuels:					
Natural gas, methane .... million cubic feet	---	---	---	35	NA

[e] Estimate. NA Not available.

[1] Based mainly on exports; few production statistics are available.

[2] United States imports.

[3] Includes small quantity of mixed cassiterite-columbite-tantalite concentrate.

Table 2.—Rwanda: Principal mineral commodity trade [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965
Exports:		
Beryl	117	686
Cassiterite concentrate [2] .... long tons	2,324	2,006
Columbite-tantalite concentrate	7	50
Lithium mineral (amblygonite)	295	---
Wolframite ore and concentrate	138	157
Imports: [3]		
Aluminum	84	128
Copper	5	34
Iron and steel, mainly semimanufactures	1,348	2,740
Cement	10,916	12,422
Salt	3,355	4,953
Fuels, mainly petroleum products	9,051	13,128

[1] Sources and destinations were not reported.

[2] Includes small quantity of mixed cassiterite-columbite-tantalite concentrate.

[3] Includes unwrought and semimanufactures unless otherwise specified.

Saudi Arabia

Table 1.—Saudi Arabia: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Cement____thousand tons__	[r] 182	[r] 196	[r] 259	[r] 253	250
Gypsum	10,500	36,000	[e] 30,000	22,599	[e] 25,000
Lime	NA	6,200	NA	30,000	[e] 20,000
Marble	240	48,400	NA	NA	[e] 20,000
Salt	NA	9,700	NA	NA	[e] 3,000
Mineral fuels:					
Crude petroleum__thousand 42-gallon barrels__	555,056	594,592	628,095	739,078	873,349
Refinery products:					
Aviation gasoline____do____	313	335	373	244	327
Motor gasoline____do____	8,327	10,440	13,537	17,052	17,650
Jet fuel____do____	4,428	4,506	6,159	8,345	10,276
Kerosine____do____	3,775	3,805	3,197	2,190	1,921
Distillate fuel oil____do____	12,310	15,174	13,689	12,737	16,029
Residual fuel oil____do____	51,951	53,388	56,376	63,811	60,834
Liquefied petroleum gas____do____	1,058	2,116	4,031	5,062	5,679
Miscellaneous____do____	3,535	4,866	5,814	281	654
Refinery fuel and loss____do____	4,180	3,872	4,525	5,839	5,260
Total____do____	89,877	98,502	107,701	115,561	118,130

NA Not available. [e] Estimate.

Table 2.—Saudi Arabia: Exports and reexports of petroleum and petroleum products [1]

(Thousand 42-gallon barrels)

Commodity	1964	1965	1966
Crude petroleum	527,011	623,515	760,127
Refinery products:			
Aviation gasoline	144	83	75
Motor gasoline	10,755	15,349	14,695
Jet fuel	5,913	8,174	10,389
Kerosine	2,201	1,053	605
Distillate fuel oil	11,390	10,428	12,691
Residual fuel oil	40,613	44,177	38,843
Liquefied petroleum gas	4,076	4,650	5,605
Total	75,092	83,914	82,903
Bunkers, all flags:			
Distillate fuel oil	417	458	465
Residual fuel oil	15,754	19,576	21,680

[1] Data on geographic distribution on individual items are not available. The continental distribution of total crude oil and refinery products produced by ARAMCO (excluding bunkers) in 1965 was as follows, in percent: Europe 48.9; Asia and Australia 34.7; North America 7.1; South America 5.2; and Africa 4.1.

Senegal

Table 1.—Senegal: Production of mineral commodities
(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Titanium concentrate:					
Ilmenite	22,432	12,189	1,320	---	---
Rutile	736	708	54	---	---
Zirconium concentrate	2,336	3,069	554	---	NA
Nonmetals:					
Attapulgite	---	---	---	7,100	10,458
Cement ... thousand tons	183	190	205	181	194
Fertilizer materials:					
Phosphate rock:					
Aluminum phosphate	141,426	125,814	120,939	134,940	144,781
Calcium phosphate	497,090	470,080	677,081	867,239	990,000
Processed: [1]					
Aluminum phosphates dehydrated	41,681	[r] 17,710	32,254	18,090	51,908
Other [2]	7,425	[e] 10,900	10,018	7,694	18,904
Salt [3] ... thousand tons	48	60	56	[r] 51	61
Mineral fuels:					
Petroleum:					
Crude	463	---	---	---	---
Refinery products:					
Gasoline	---	3,481	73,890	125,113	NA
Kerosine and jet fuel	---	665	26,580	72,572	NA
Distillate fuel oil	---	3,430	68,860	93,077	NA
Residual fuel oil	---	3,263	105,690	149,775	NA
Other	---	---	26,025	2,419	NA
Total	---	10,839	300,545	442,956	NA

[e] Estimate.
[1] Derived from crude aluminum phosphates output.
[2] Includes products marketed under trade names of Baylifos and Phosphal.
[3] Includes production of Mauritania, estimated at 500 to 800 tons per year.

Table 2.—Senegal: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Copper:			
Metal	---	65	Japan 35; France 30.
Scrap	545	156	NA.
Iron and steel:			
Scrap	6,036	3.013	All to Spain.
Unwrought and semimanufactures	463	4	France 2.
Lead	221	29	France 23; Belgium-Luxembourg 6.
Titanium concentrate	[r] 4,098	---	
Zinc	8	5	All to France.
Nonferrous minerals, ore and concentrate, not elsewhere specified.	141	94	Belgium-Luxembourg 47; France 23; West Germany 22.
Nonmetals:			
Cement and lime	1.500	51	Gambia 45.
Fertilizer materials:			
Phosphate rock:			
Aluminum phosphate	88,239	108,350	West Germany 251,024; Japan 168,589; United Kingdom 141,226; France 122,500.
Calcium phosphate	633,200	818,620	
Manufactured [1]	19,273	4,041	France 3,990.
Fuller's earth	---	700	NA.
Salt	5.460	6,144	NA.
Stone, construction; sand and gravel	32	---	
Other, not elsewhere specified (includes salt).	11,917	6,162	Cameroon 2,252; Gabon 1,441; Togo 654.
Mineral fuels: Petroleum: Refinery products, unspecified.	156	58	Ships stores 57; Mauritania 43.

[r] Revised. NA Not available.

[1] Includes dehydrated aluminum phosphate and products marketed under trade names of Baylifos and Phosphal.

Sources: Statistical Office of the European Communities, Overseas Associates. Republic of Senegal, Monthly Statistical and Economic Bulletin, Dakar, Senegal, No. 7, 1966.

Table 3.—Senegal: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum [1]	352	287	France 277.
Copper [1]	123	110	France 109.
Iron and steel:			
Scrap	39	21	Gabon 20.
Pig iron and ferroalloys	12	22	France 21.
Semimanufactures:			
Bars, rods, shapes	16,259	15,988	France 13,878; Belgium-Luxembourg 1,211.
Plate and sheet	13,082	6,840	France 4,084; Belgium-Luxembourg 2,709.
Tubes, pipes, and fittings	6,669	7,273	France 6,792; Belgium-Luxembourg 340.
Other	2,297	1,799	France 1,684; Belgium-Luxembourg 112.
Total	38,307	31,900	
Lead [1]	100	111	France 110.
Tin [1] long tons	14	8	All from France.
Zinc	64	49	France 42; Tunisia 6.
Nonferrous metals, not elsewhere specified.	12	[r] 1	All from France.
Nonmetals:			
Abrasive materials	75	53	Algeria 33; France 20.
Cement and lime	7,587	7,476	France 3,546; Morocco 2,974; Italy 418.
Clay construction materials	3,325	2,715	West Germany 1,549; France 1,017; Italy 136.
Fertilizers, crude and manufactured	26,897	21,772	Belgium-Luxembourg 7,463; France 7,236; West Germany 7,069.
Stone, construction: Sand and gravel	6,038	5,085	Morocco 4,390; Italy 350; France 317.
Nonmetals, not elsewhere specified	1,587	1,501	France 1,027; Canada 185; Norway 161.
Mineral fuels:			
Coal, coke, and briquets	833	899	France 710; Netherlands 148; Rumania 40.
Petroleum:			
Crude	199,462	282,453	Algeria 193,242; Gabon 89,212.
Refinery products:			
Gasoline	43,244	46,223	NA.
Kerosine	6,140	7,043	NA.
Distillate fuel oil	9,932	11,023	NA.
Residual fuel oil	52,172	78,487	NA.
Asphalt and bitumen	7,791	6,734	NA.
Other	6,165	5,107	NA.
Total	125,444	154,617	Senegal 135,496; Venezuela 6,840; France 6,370; Aden 2,336.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	224	NA	
Gas, natural and manufactured	NA	1,793	Senegal 1,711; Venezuela 52; France 30.

[r] Revised. NA Not available.

[1] Unwrought and semimanufactures, including alloys.

Sources: Statistical Office of the European Communities, Overseas Associates. Monthly Statistical and Economic Bulletin, Dakar, Senegal. Nos. 1 and 2, 1966

Sierra Leone

Table 1.—Sierra Leone: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Metals:					
Bauxite thousand metric tons	---	20	153	207	272
Chromite metric tons	11,450	2,782	---	---	---
Gold troy ounces	30	44	49	NA	---
Iron ore thousand metric tons	1,873	1,912	1,993	2,144	2,304
Nonmetals: Diamond thousand carats	1,637	1,388	1,463	1,462	1,462

NA Not available.

Table 2.—Sierra Leone: Exports of mineral commodities

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Bauxite thousand metric tons	129	176	West Germany 78; Netherlands 53; Italy 46.
Gold troy ounces	49	NA	
Iron ore:			
Concentrate thousand metric tons	1,856	2,088	Netherlands 672; West Germany 632; United Kingdom 486.
Fines do	156	246	Netherlands 105; United Kingdom 77; West Germany 63.
Total do	2,012	2,334	
Ferromax [1] metric tons	223	174	West Germany 102; United Kingdom 15.
Nonmetals:			
Diamond, crude, unworked thousand carats	1,650	1,525	All to United Kingdom.
Minerals fuels:			
Petroleum refinery products (reexports):			
Residual fuel oil thousand 42-gallon barrels	1,244	1,229	All to bunkers.
Other [2] do	524	NA	Do.

NA Not available.

[1] Trade name for specularite largely for pigment use.

[2] Includes distillate fuel oil, aviation gasoline, jet fuel, and lubricants.

Table 3.—Sierra Leone: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals: [1]			
Aluminum	[r] 58	67	United Kingdom 26; Belgium 16; West Germany 11.
Copper	108	60	United Kingdom 50; Switzerland 6.
Iron and steel:			
Ingots and other primary forms	3	19	United Kingdom 18.
Semimanufactures	17,065	14,218	United Kingdom 3,920; Japan 3,144; United States 1,882.
Lead	30	44	United Kingdom 21; Belgium 12; Netherlands 11.
Platinum troy ounces	3	64	Nigeria 58.
Silver do	1,344	---	
Tin long tons	1	10	Hong Kong 6; Japan 4.
Zinc	641	---	
Ore and scrap, n.e.s.	---	1	Nigeria 1.
Nonferrous metals, n.e.s.	3	2	Poland 1, West Germany 1.
Nonmetals:			
Abrasive materials	5	43	United Kingdom 40.
Cement and lime	62,186	28,072	Poland 13,974; United Kingdom 6,726.
Clay construction materials	504	925	United Kingdom 393; Italy 279.
Fertilizer materials:			
Mineral	744	33	United Kingdom 27.
Manufactured	424	968	West Germany 660; United Kingdom 140.
Salt	9,001	6,991	United Kingdom 6,071.
Sodium hydroxide	268	168	All from United Kingdom.
Stone, dimension	48	109	United Kingdom 66; Belgium 17.
Stone, sand and gravel	250	47,668	Poland 27,002; Italy 20,631.
Tar, mineral	140	95	All from United Kingdom.
Nonmetallic minerals, n.e.s.	248	131	Italy 93; United Kingdom 27.
Mineral fuels:			
Coal, coke and briquets	81	4,135	United Kingdom 4,125.
Gas, natural manufactured (butane)	65	108	Netherlands 86.
Petroleum:			
Crude and partly refined 42-gallon barrels	34	22	United States 22.
Refinery products:			
Gasoline thousand 42-gallon barrels	206	250	Netherlands West Indies 91; Italy 60; Trinidad 58; Netherlands 25.
Kerosine do	127	78	Italy 30; Netherlands West Indies 18.
Jet fuel do	NA	66	Netherlands West Indies 35; Trinidad 14; Italy 13.
Distillate fuel oil do	1,671	1,365	Netherlands 606; Trinidad 225; United Kingdom 174.
Residual fuel oil do	[r] 111	184	United Kingdom 94; Trinidad 90.
Lubricating oils do	26	16	United Kingdom 8; United States 4.
Total do	2,141	1,959	
Greases, wax, jelly	243	178	United Kingdom 84; West Germany 38.
Asphalt and bitumen	2,994	3,556	United Kingdom 2,822.
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	283	490	United Kingdom 489.

NA Not available. [r] Revised.

[1] Unwrought and semimanufactures, including alloys, unless otherwise specified.

Somali Republic

Table 1.—Somali Republic: Production of salt [1]

Year	Quantity (Metric tons)
1962	[e] 2,000
1963	2,200
1964	5,581
1965	5,000
1966	(2)

[e] Estimate.
[1] Data on other mineral production, if any, are not available.
[2] Less than 500 tons.

Table 2.—Somali Republic: Exports of selected mineral commodities

(Metric tons unless otherwise stated)

Commodity	1964	1965 [1]	Principal destinations, 1965
Metals: [2]			
Aluminum	13	---	
Iron and steel:			
Scrap	20	25	All to Aden.
Semimanufactures	126	4	Italy 3.
Lead	26	---	
Silver, platinum and platinum group metals troy ounces	NA	3,858	All to Aden.
Zinc	1	---	
Nonferrous metals, scrap	51	109	All to Italy.
Nonferrous metals, unspecified	29	75	Do.
Nonmetals:			
Asphalt, natural	24	---	
Cement, lime, and other building materials.	2	---	
Salt	50	20	All to Saudi Arabia.
Stone, sand and gravel	NA	5	Kenya 3; United States 1.
Mineral fuels:			
Petroleum refinery products:			
Distillate fuel oil 42-gallon barrels	NA	280	Bunkers.
Lubricants do	NA	35	Do.

[1] Source: Foreign Trade Returns, 1965; Somali Republic, Mogadiscio, December, 1966.
[2] Includes unwrought and semimanufactures unless otherwise specified.

Table 3.—Somali Republic: Imports of selected mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964 [2]	1965 [2]	Principal sources, 1965
Metals: [3]			
Aluminum	9	32	U.S.S.R. 21; Italy 5; United States 2.
Copper	---	6	Italy 5.
Iron and Steel:			
Pig iron and ferroalloys	NA	532	U.S.S.R. 464; Italy 61; United Kingdom 7.
Ingots and primary forms	NA	333	Italy 255; U.S.S.R. 72; United Kingdom 5.
Semimanufactures	[4] 4,286	[4] 7,389	Italy 5,396; U.S.S.R. 578; Japan 527.
Lead	4	2	Italy 1; Kenya 1.
Silver, Platinum, and platinum group metals troy ounces	NA	3,277,185	Italy 3,277,089; Hong Kong 96.
Tin long tons	1	124	U.S.S.R. 122; United Kingdom 1.
Nonferrous metals, not elsewhere specified.	15	214	Italy 138; U.S.S.R. 72; India 3.
Nonmetals:			
Cement, lime, and other building materials.	44,469	40,782	U.S.S.R. 23,245; Kenya 15,764; Italy 1,278.
Clay construction materials	[4] 776	[4] 1,354	Italy 1,106; U.S.S.R. 86; United States 58.
Fertilizers:			
Natural	222	114	All from Kenya.
Manufactured	2,395	3,575	Italy 3,412; Germany 151; Kenya 10.
Salt	425	215	Aden 213; Saudi Arabia 1.
Nonmetallic minerals, crude, unspecified.	[4] 257	41	Kenya 40.
Nonmetallic mineral manufactures	[4] 1,059	[4] 626	Italy 187; Czechoslovakia 313; Netherlands 80.
Mineral fuels:			
Crude and partly refined petroleum	NA	4	All from Aden.
Gas, natural and manufactured	[4] 103	[4] 242	Italy 226; Kenya 15.
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	139	127	Iran 107; Italy 14; Kenya 5.
Kerosine do	42	38	Iran 28; Saudi Arabia 7; Italy 1.
Distillate fuel oil do	186	227	Iran 160; Kenya 45; Italy 20.
Lubricants do	13	32	Italy 24; Iran 5.
Other do	---	---	
Total do	380	424	
Tar, pitch, and other crude chemicals from coal, oil, and gas distillation.	17	37	United Kingdom 19; U.S.S.R. 16.

[e] Estimate. NA Not available.

[1] Statistics for the Northern and Southern Regions, reported separately, are combined where complete data were available.

[2] Source: Foreign Trade Returns, 1965; Somali Republic, Mogadiscio, December 1966.

[3] Includes unwrought and semimanufactures unless otherwise specified.

[4] Partial figure; other imports given in terms of value only.

Republic of South Africa

Table 1.—Republic of South Africa: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony, content of cobbed ore and concentrate	10,611	11,258	12,882	12,611	11,371
Beryl, about 11.7 percent BeO	327	386	137	48	18
Bismuth, content of concentrate kilograms	59	1,188	[r] 73	109	149
Chromite:					
44 percent or less Cr_2O_3	257,868	132,773	180,971	242,650	342,987
More than 44 percent to 48 percent Cr_2O_3	632,348	639,692	641,823	668,483	691,701
More than 48 percent Cr_2O_3	22,564	19,695	26,752	30,977	26,248
Total	912,780	792,160	849,546	942,110	1,060,936
Copper:					
Concentrate, metal content	46,371	55,150	59,492	60,455	124,660
Blister	35,415	39,470	42,461	40,284	115,030
Fire refined	10,765	15,038	12,052	14,125	
Electrolytic [e]	1,800	1,800	2,200	3,000	NA
Gold thousand troy ounces	25,492	27,432	29,112	30,554	30,880
Iron and steel:					
Iron ore, 60 percent or more Fe thousand tons	4,331	4,460	4,830	5,816	6,797
Pig iron do	2,220	2,887	2,657	3,271	3,407
Ferroalloys and spiegel iron do	196		230	332	336
Steel:					
Ingots and castings do	2,633	2,834	[r] 3,142	[r] 3,293	3,305
Semimanufactures do	1,722	2,115	2,316	NA	NA
Lead: metal content of ore	6	15	---	48	18
Manganese ore:					
Metallurgical:					
Over 30 to 40 percent Mn thousand tons	NA	494	406	483	602
Over 40 to 45 percent Mn do	NA	469	478	581	565
Over 45 to 48 percent Mn do	NA	231	334	433	427
Over 48 percent Mn do	NA	52	61	24	30
Subtotal do	NA	1,246	1,279	1,521	1,624
Chemical:					
Over 35 to 65 percent MnO_2 do	NA	52	34	40	68
Over 65 to 75 percent MnO_2 do	NA	7	3	6	(1)
Over 75 to 85 percent MnO_2 do	NA	3	5	1	---
Subtotal	NA	62	42	47	69
Manganiferous iron ore, 15 to 30 percent Mn do	NA	50	147	208	289
Total do	[2] 1,465	1,358	1,468	1,776	1,982
Monazite	4,832	2,087	---	---	---
Nickel, electrolytic [e]	2,400	2,400	2,400	3,000	5,400
Platinum group metals:					
Osmindium (sales) [3] thousand troy ounces	6	5	4	[e] 4	[e] 4
Platinum and other, contained in concentrates, matte and refinery products [e] do	300	300	600	750	780
Silver do	2,549	2,737	2,917	3,132	3,134
Tantalum concentrates	4	29	6	3	2
Tin:					
Concentrates, metal content long tons	1,408	1,530	1,586	1,671	1,745
Metal, smelter production do	821	962	1,016	962	822
Titanium concentrates:					
Ilmenite	79,012	28,158	---	---	---
Rutile	3,243	1,256	---	---	---

See footnotes at end of table.

Table 1.—Republic of South Africa: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals—Continued					
Tungsten ore and concentrate 60 percent WO_3	25	8	4	4	8
Uranium U_3O_8	4,558	4,111	4,032	2,669	2,981
Vanadium, fused oxide, 99.9 percent V_2O_5	2,260	2,255	2,077	2,461	2,771
Zircon, concentrates	6,877	2,402	---	---	---
Nonmetals:					
Andalusite	18,338	10,008	13,972	r 21,919	21,486
Asbestos:					
Amosite	67,933	70,414	70,103	73,241	87,033
Chrysotile	27,209	26,243	32,587	35,285	33,367
Crodicolite	105,532	89,965	92,891	109,879	130,523
Tremolite	87	52	---	---	---
Total	200,761	186,674	195,581	218,405	250,923
Barite	1,699	2,453	2,572	1,340	6,182
Cement thousand tons	2,659	2,884	r 3,455	3,882	3,984
Clays:					
Bentonite	[4] 5,745	[4] 7,814	9,313	11,737	11,904
Fire clay	[4] 183,042	[4] 223,561	266,704	280,288	239,387
Flint clay	[4] 155,782	136,208	191,965	248,357	182,515
Fuller's earth	[4] 668	[4] 452	163	632	---
Kaolin	28,455	33,940	39,458	41,394	40,519
Corundum	317	72	54	312	e 440
Diamond:					
Natural, gem and industrial thousand carats	3,912	4,376	4,450	r 4,945	6,135
Manufactured, industrial do	999	1,475	2,639	NA	NA
Diatomite	587	200	495	976	NA
Emerald crystals kilograms	212	239	208	532	4,321
Feldspar	28,662	42,036	36,095	42,304	34,541
Fertilizer materials: Phosphate rock	307,161	454,911	578,893	609,769	1,063,327
Fluorspar:					
Acid grade	4,132	7,539	6,066	4,835	NA
Ceramic grade	31,439	16,632	2,129	4,829	NA
Metallurgical grade	65,746	28,229	52,070	56,122	NA
Total	101,317	52,400	60,265	65,786	81,888
Graphite	1,187	609	945	406	1,053
Gypsum	192,001	187,464	240,082	303,940	296,539
Lime (sales)	658,330	651,907	r 699,628	746,783	736,775
Limestone [4] thousand tons	5,300	5,802	6,971	7,550	7,748
Lithium minerals	1,146	378	162	r 869	306
Magnesite	92,852	98,256	84,770	86,898	93,301
Mica	2,224	r 2,141	3,115	2,269	2,234
Mineral pigments	4,559	3,966	4,975	4,741	5,767
Pyrite	440,993	418,551	432,475	428,294	481,184
Salt thousand tons	255	198	300	331	314
Shale	163,200	176,180	233,611	246,849	254,144
Silcrete [5]	11,500	14,878	19,695	11,349	10,723
Silica and silica sand	199,491	275,107	324,304	375,202	411,696
Sillimanite	53,662	56,241	54,649	42,148	35,103
Sulfur, elemental, refinery byproduct	1,944	2,013	5,792	7,216	5,806
Talc	12,629	6,864	6,617	9,241	8,645
Tiger's eye [5]	93	117	73	73	57
Vermiculite	77,595	85,591	101,488	115,131	103,175
Wonderstone (pyrophyllite)	1,676	1,855	1,704	3,626	6,271
Mineral fuels:					
Coal, marketable:					
Anthracite thousand tons	1,110	1,152	1,315	1,247	1,077
Bituminous do	40,165	41,302	43,602	47,213	46,865
Total do	41,275	42,454	44,917	48,460	47,942
Coke:					
Oven and beehive do	2,203	2,286	2,391	3,194	2,879
Gashouse, low and medium temperature do	110	126	135	162	176
Carbon black	7,638	9,708	11,945	13,163	NA

See footnotes at end of table.

Table 1.— Republic of South Africa: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels—Continued					
Petroleum refinery products:					
Gasoline______thousand 42-gallon barrels__	5,235	5,107	12,038	11,260	13,491
Kerosine, including aviation turbine fuel__________________________do____	1,367	1,449	1,829	1,753	2,098
Distillate fuel oil_________________do____	3,069	3,918	8,880	8,869	10,000
Residual fuel oil__________________do____	2,237	4,662	10,715	8,226	10,550
Miscellaneous products____________do____	1,337	835	1,406	1,093	1,480

[e] Estimate. [r] Revised. NA Not available.

[1] Less than ½ unit.

[2] Classes of ore making up total not reported on same basis as in 1963–65.

[3] Natural alloy of osmium, iridium, small quantities of other platinum group metals, and gold; recovered by certain gold mines.

[4] Local sales.

[5] A rock containing up to 98.4 percent SiO_2.

[6] Decorative material resulting from oxidation and silicification of crocidolite.

Table 2.—Republic of South Africa: Exports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Antimony concentrate	21,741	18,959	United Kingdom 12,282; United States 5,471; Japan 457.
Beryllium ore	84	---	
Bismuth concentrate ..... kilograms	---	934	NA.
Chromite	629,384	777,050	United States, 396,263; Japan 109,297; United Kingdom 92,988; West Germany 68,260; Netherlands 45,664.
Copper:			
Concentrate	3,340	21,476	Japan 11,987; Belgium 5,129; Spain 2,174; Chile 993; West Germany 655.
Blister and refined	53,302	83,526	United States 43,528; Belgium 17,339; West Germany 8,818; United Kingdom 5,383; Italy 3,887.
Iron and steel:			
Iron ore ..... thousand tons	1,085	2,230	Japan 2,093; France 78; Netherlands 40; United Kingdom 13.
Iron and steel scrap	849	231	NA.
Pig iron, Spiegeleisen, powder and shot:			
Pig iron	353,612	563,279	Japan 509,757; Italy 48,469; United Kingdom 2,248.
Other	8,354	3,480	Belgium 1,930; Italy 1,243.
Ferroalloys:			
Ferrochromium	28,559	62,933	United States 27,057; Sweden 11,693; United Kingdom 8,726; West Germany 4,942.
Ferromanganese	122,240	157,598	United Kingdom 54,692; United States 26,591; Canada 22,759; Australia 17,493.
Ferrosilicon	20,740	16,202	Australia 6,388; United Kingdom 2,571; West Germany 2,043; Netherlands 1,397.
Other	4,575	302	Sweden 253.
Total	176,114	237,035	
Steel ingots and other primary forms.	3,549	925	NA.
Semimanufactures:			
Bars, rods, angles, shapes and sections.	29,579	26,674	NA.
Universals, plates and sheets	65,545	36,947	NA.
Hoop and strip	1,536	2,393	NA.
Rails and accessories	18,647	9,000	NA.
Iron and steel wire	2,230	4,289	NA.
Tubes, pipes, and fittings	20,498	18,537	NA.
Castings and forgings, rough	364	637	United Kingdom 430.
Total	138,399	98,477	
Manganese:			
Ore	958,076	985,151	France 246,467; United States 169,172; West Germany 137,303; United Kingdom 111,194; Netherlands 95,106; Japan 70,930.
Electrolyticmetal	4,826	5,104	United States 953; United Kingdom 908; Sweden 899; Canada 703.
Nickel:			
Ore and concentrate	NA	826	All to Canada.
Matte and speiss	NA	213	United States 144; United Kingdom 19.
Metal, unwrought	NA	1,094	United Kingdom 1,071; United States 23.
Platinum-group metals	NA	NA	
Silver ..... thousand troy ounces	1,700	2,773	United Kingdom 2,120; United States 653.
Tantalite ..... kilograms	381	1,510	NA.
Tin concentrate ..... long tons	878	1,603	United Kingdom 1,093; United States 510.
Tungsten concentrate	20	12	United Kingdom 11.
Uranium (U_3O_8)	3,388	[e] 3,000	NA.
Vanadium:			
Fused oxide	3,243	2,705	NA.
Ammonium vanadate	61	58	NA.
Zirconium concentrate	73	---	
Other ores and concentrate, nes	NA	2,112	United Kingdom 914; Japan 732; United States 220.
Nonferrous metal scrap	3,962	485	Spain 243; Japan 183.

See footnotes at end of table.

Table 2.—Republic of South Africa: Exports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals:			
Andalusite, kyanite and sillimanite	53,959	50,906	United Kingdom 18,643; Japan 15,054; West Germany 7,137; Netherlands 6,058.
Asbestos	197,928	224,668	United Kingdom 45,455; United States 39,599; Japan 27,184; Italy 16,636; Spain 10,946; West Germany 9,759; Denmark 7,840.
Barite	14	561	NA.
Cement, including refractory cements	51,786	31,788	United Kingdom 9,384; Japan 1,570; West Germany 925.
Corundum, crystal	53	---	
Diamond, exports and reexports:			
Gem:			
Rough, uncut thousand carats	2,212	2,204	United Kingdom 2,046; Netherlands 91; Belgium 27; Israel 23; United States 16.
Cut, unmounted do	111	146	Belgium 62; United States 26; Hong Kong 25; United Kingdom 11.
Subtotal	2,323	2,350	
Industrial:			
Natural	18,039	23,090	Ireland 12,904; United Kingdom 9,816; United States 255.
Manufactured	2,639	775	Ireland 773.
Subtotal	20,678	23,865	
Total	23,001	26,215	
Emerald crystals kilograms	200	913	NA.
Feldspar	6,558	11,461	West Germany 5,275; Italy 2,857; United Kingdom 1,138.
Fertilizers:			
Natural-phosphate	2,777	12,599	NA.
Manufactured:			
Nitrogenous	4,678	4,196	NA.
Phosphatic	5,358	5,612	NA.
Potassic	9	146	NA.
Not elsewhere specified	---	2,503	NA.
Flint clay	87,948	39,748	NA.
Fluorspar	51,314	46,884	Japan 15,429; Sweden 7,065; Norway 4,146; Australia 5,496.
Granite	60,486	93,642	France 25,815; Belgium 16,054; Netherlands 11,408; Italy 9,275.
Graphite	42	101	NA.
Gypsum	17,284	12,798	NA.
Lime and limestone	20,551	2,190	NA.
Lithium minerals	340	---	
Magnesite	322	7,532	United Kingdom 1,354.
Marble, blocks cubic meters	5	---	
Mica	2,302	574	NA.
Mineral pigments	2,881	2,431	NA.
Pyrite, sulfur content	2,440	1,359	NA.
Salt	30,184	30,711	NA.
Silica	773	1,327	NA.
Silicrete	256	110	NA.
Talc	664	169	NA.
Tiger's eye	89	151	NA.
Vermiculite	97,843	96,179	NA.
Wonderstone (pyxophyllite)	1,377	3,010	NA.
Explosives:			
Dynamite and gelignite	17,952	20,901	NA.
Other prepared explosives	3,381	1,982	NA.
Fuses	808	894	NA.
Detonators thousands of	10,522	NA	NA.
Mineral fuels:			
Coal:			
Anthracite thousand tons	656	553	Italy 226; Japan 165; France 63; Spain 49.
Other do	728	789	Ceylon 134; Spain 31.

See footnotes at end of table.

Table 2.—Republic of South Africa: Exports of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Coke	722	916	NA.
Petroleum refinery products:			
Gasoline thousand 42-gallon barrels	35	26	Ships stores 14.
Kerosine do	179	184	Ships stores 123.
Liquid petroleum and manufactured gas do	27,469	NA	NA.
Distillate fuel oil do	860	735	Ships stores 587.
Residual fuel oil do	8,996	6,758	Ships stores 5,023; United Kingdom 802.
Lubricating oils do	4	296	Ships stores 52.
Nonlubricating oils do	38	51	West Germany 42; Netherlands 6.
Lubricating greases	1,664	1,765	NA.
Jellies and waxes	7,191	6,710	United States 1,837; Netherlands 1,519; West Germany 1,194; United Kingdom 962.
Bitumen and oil residues	27,602	19,839	NA.
Pitch and pitch coke	2,363	1,043	South Korea 1,039.

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[e] Estimate NA Not available.

[1] The sources of the table were (1) the Minerals Quarterly Information Circular of the Department of the Republic and (2) Volume I of the official Foreign Trade Statistics of the Republic for the years 1964 and 1965. The statistical territory of the latter includes Basutoland (Lesotho), Swaziland and Bechuanaland (Botswana), as well as the Territory of South-West Africa. Certain items appearing in Volume I that are known to have been produced largely in their political divisions have been omitted from the table.

Table 3.—Republic of South Africa: Imports of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	8,641	7,763	NA.
Scrap	320	279	NA.
Ingots and other primary forms	17,246	20,373	Canada 19,620.
Semimanufactures	7,966	8,395	United Kingdom 3,500; United States 1,939; West Germany 824; Canada 574.
Chromite	48,562	83,717	NA.
Copper and its alloys:			
Ore and concentrate	5,554	6,118	NA.
Scrap	307	2,313	United States 1.737; Canada 204; Japan 76.
Ingots and other primary forms:			
Blister and other unrefined	3,605	3	NA.
Refined	27,689	32,997	
Total	31,294	33,000	NA.
Semimanufactures	4,407	3,806	United Kingdom 1,777; Italy 852; Chile 254; Canada 143.
Iron and steel:			
Iron ore and concentrate	63	33	NA.
Scrap	32,174	11,366	NA.
Pig iron, spiegeleisen, etc.	1,642	3,436	United Kingdom 915; Sweden 682; United States 127.
Ferroalloys:			
Ferrochromium	36	16	NA.
Ferromanganese	7	4	NA.
Ferrosilicon	1,863	1,356	West Germany 1,061; Italy 121; France 83.
Other ferroalloys	195	249	United States 101; United Kingdom 65; West Germany 54.
Total	2,101	1,625	
Steel ingots and other primary forms	17,206	20,942	United Kingdom 4,779.
Semimanufactures:			
Bars, rods, angles, shapes and sections	38,979	256,928	Italy 119,001; Japan 62,968; Netherlands 22,727; United Kingdom 15,484.
Universals, plates and sheets	189,026	466,705	Japan 178,927; United Kingdom 127,678
Hoop and strip	5,397	5,072	United Kingdom 1,538; Italy 733; United States 715; Japan 313.
Rails and accessories	33,758	160,503	France 45,063; United Kingdom 42,400; Belgium 33,756; West Germany 25,609.
Wire	28,648	25,956	Belgium 7,779; Netherlands 5,725; United Kingdom 3,621; Japan 2,126.
Tubes and pipes	15,173	28,157	Japan 10,993; United Kingdom 8,198; West Germany 2,725.
Castings, rough	603	7,492	United Kingdom 3,877; Belgium 1,148; France 1,107.
Total	311,584	950,813	
Lead:			
Scrap	3,055	4,256	Australia 1,797; New Zealand 898; Canada 387.
Ingots and other primary forms	9,778	8,607	NA.
Semimanufactures	100	1,430	NA.
Manganese ore	626	518	NA.
Mercury 76-pound flasks	639	810	Italy 282; United Kingdom 151; Mexico 142; Spain 115.
Nickel:			
Scrap	70	(2)	NA.
Ingots and other primary forms	14	13	NA.
Semimanufactures	451	488	Canada 226; United Kingdom 204.
Platinum troy ounces	2,211	208	United Kingdom 196.
Tin:			
Ore and concentrate long tons	1	NA	
Scrap do	155	66	NA.
Ingots do	564	447	NA.
Semimanufactures do	48	36	United Kingdom 31.
Titanium, concentrate	18,707	34,210	Australia 24,664; Canada 9,467.
Tungsten, ore and concentrate	114	200	Australia 80; South Korea 80; Portugal 18.
Zinc:			
Scrap	333	157	NA.
Ingots and equivalent forms	42,049	37,215	NA.
Semimanufactures	960	709	NA.
Metals not further specified	589	320	NA.

See footnotes at end of table.

Table 3.—Republic of South Africa: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals:			
Abrasives: Emery, pumic, etc.	3,591	1,765	NA.
Asbestos	7,136	8,603	NA.
Barite	2,418	3,141	West Germany 1,040.
Borax	103	15	NA.
Cement	13,972	30,320	United States 8,507; Japan 1,570; West Germany 970.
Clays:			
Bentonite	1,546	NA	
Kaolin	1,195	NA	
Other clays and refractory minerals	6,035	8,392	United States 4,134; United Kingdom 2,843.
Diamond:			
Gem:			
Rough, mixed origin thousand carats	9	28	United Kingdom 4.
Unmounted, cut, etc. do	1	7	United Kingdom 4; Belgium 1.
Industrial do	15,728	19,075	United Kingdom 4,624; Belgium 1,561; Ireland 149.
Diatomaceous earth	4,186	3,090	United States 2,516; West Germany 326.
Fertilizers and fertilizer raw materials:			
Nitrogenous:			
Ammonium nitrate	750	3,093	Italy 1,815; Netherlands 907.
Ammonium sulfate	133,353	42,873	Netherlands 16,258; West Germany 15,588; Belgium 4,649; Italy 3,675.
Urea	29,170	22,191	Netherlands 6,451; West Germany 6,323; France 4,784; Italy 3,856.
Phosphatic:			
Phosphate rock	302,756	175,121	NA.
Thomas slag	26,913	28,100	All from Belgium.
Other phosphatic fertilizers, etc.	52,056	4,849	Portugal 2,936; Netherlands 1,162.
Potassic: Potash	123,340	140,721	West Germany 58,722; United States 32,221; France 23,175; Israel 18,808.
Manufactured fertilizers not elsewhere specified	16,752	567	Italy 544.
Graphite	550	445	United States 165; United Kingdom 107.
Gypsum, including plaster of Paris	3,229	3,506	West Germany 2,671; United Kingdom 759.
Magnesite	26,154	36,186	NA.
Mica	585	226	NA.
Mineral pigments	58	596	United Kingdom 173.
Quartz and quartzite	12	45	NA.
Salt	700	2,114	United Kingdom 2,033.
Sulfur:			
Elemental	144,546	170,434	Canada 76,684; Mexico 47,442; United States 24,040; France 22,223.
Pyrite	7,509	(2)	NA.
Mineral fuels:			
Coal	98,037	24,096	NA.
Coke	13	10,541	NA.
Petroleum:			
Crude thousand 42-gallon barrels	34,731	33,529	NA.
Partly refined do	1,031	4,030	NA.
Total do	35,762	37,559	
Refinery products:			
Gasoline do	5,745	6,418	NA.
Kerosine do	3,536	2,668	NA.
Distillate fuel oil do	2,615	3,361	NA.
Residual fuel oil do	26	583	NA.
Lubricating oils do	1,274	1,395	United States 569; United Kingdom 209; Australia 201; Venezuela 138.
Nonlubricating oils do	928	147	United States 50; Netherlands 29; West Germany 26; United Kingdom 22.
Lubricating greases	2,979	3,334	United States 2,457; United Kingdom 567.
Jellies and waxes	22,622	23,061	United States 13,980; West Germany 7,748.
Bitumen and oil residues and bituminous mixtures	21,827	18,978	United States 12,102; Netherlands 1,820; United Kingdom 803.
Pitch and pitch coke	549	1,287	United Kingdom 669.

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[r] Revised. NA Not available.

[1] The statistical territory for the external trade statistics of the Republic of South Africa includes Basutoland, Swaziland, and Bechuanaland besides the Territory of South-West Africa. No separate statistics for the trade between these territories are recorded.

[2] Less than one-half unit.

South-West Africa

Table 1.—South-West Africa: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals:					
Beryl, 10 to 12 percent BeO	144	55	7	52	[e] 23
Bismuth concentrate:					
Gross weight kilograms	220	35	4,726	587	6
Metal content do	70	[r] 10	1,420	176	3
Cadmium:					
Contained in Tsumeb concentrates [3]	[r] 109	[r] 114	[r] 99	[r] 108	108
Smelter output	---	---	---	33	132
Cesium ore, pollucite kilograms	508	---	---	---	1,079
Copper:					
Mine production, content of ore	22,653	32,454	35,106	39,423	38,924
Blister	1,214	[r] 20,778	28,511	29,706	33,032
Germanium: [4]					
In concentrates kilograms	25,125	---	---	---	---
In blister copper do	96	---	---	---	---
Dioxide do	14,375	20,348	---	---	1,212
Gold troy ounces	183	3	32	14	---
Iron ore	---	15,029	9,481	32,835	37,910
Lead:					
Lead-vanadium concentrate	9,168	10,206	9,916	11,476	12,179
Mine production, content of all ores and concentrates	75,369	75,496	94,368	87,806	85,044
Refined	---	1,812	47,795	66,035	75,275
Manganese ore, about 48 percent Mn	---	---	---	3,797	23,013
Molybdenite [5] kilograms	---	486	---	---	209
Silver, recoverable, in concentrates thousand troy ounces	1,301	1,143	1,436	1,541	1,517
Tantalite-columbite concentrates kilograms	[r] 5,243	2,069	669	1,005	858
Tin:					
Tin concentrate long tons	247	265	359	490	718
Tin-tungsten concentrate, about 37 percent Sn and 16 percent WO_3, long tons	575	753	659	588	607
Tungsten, scheelite concentrate	2	---	½ unit	1	1
Vanadium, in lead vanadate concentrate	924	1,029	[r] 1,000	1,157	1,227
Zinc:					
Mine production content of ores and concentrates	22,862	33,307	32,034	29,981	27,215
Nonmetals:					
Aragonite kilograms	6,350	---	---	---	---
Arsenic, white	---	---	---	---	40
Diamond:					
Gem [e] thousand carats	800	1,076	1,387	[r] 1,491	1,583
Industrial [e] do	227	119	154	[r] 155	176
Total do	1,027	1,195	1,541	[r] 1,646	1,759
Feldspar	472	2,232	1,923	2,318	1,197
Fertilizer materials: phosphatic, guano	583	1,375	418	1,406	1,833
Fluorspar	218	435	---	---	---
Graphite	---	---	250	359	363
Lime	[r] 2,927	2,923	3,719	3,570	3,123
Lithium minerals:					
Amblygonite, 6 to 8 percent LiO_2	128	116	12	35	[e] 30
Lepidolite, 3 to 3.6 percent LiO_2	1,616	78	369	270	[e] 120
Petalite, 3 to 4 percent LiO_2	914	785	724	1,208	[e] 1,940
Marble	1,891	925	1,490	1,113	272
Mica	68	543	377	118	25
Salt thousand tons	75	65	98	[r] 98	63
Semiprecious stones:					
Agate kilograms	---	---	2,268	5,058	---
Amazonite do	862	16,375	9,562	680	---
Amethyst quartz do	141,937	61,253	52,367	2,595	112,128
Jasper do	272	181	3,084	360	512
Opal quartz do	91	---	---	---	---
Rose quartz do	227	227	13,608	---	830
Sodalite do	---	---	6,350	180	---
Tourmaline do	5	62	16	2	16
Chalcedony do	3,647	1,016	3,225	7,398	88

See footnotes at end of table.

Table 1.—South-West Africa: Production of mineral commodities [1]—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Sillimanite and kyanite	1,512	---	572	---	18
Slate	---	1,189	642	1,053	195
Wollastonite	---	---	118	209	336

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[e] Estimate. [r] Revised. NA Not available.

[1] Chiefly compiled from Minerals, a quarterly information circular of the Department of Mines of the Republic of South Africa, from annual reports of Tsumeb Corp., Ltd. (Tsumeb) and other companies and from Beerman's all mining yearbook.

[2] In addition, construction materials such as common clay, sand and gravel presumably are produced, but quantitive data are not available.

[3] For years ended June 30. Data are from company sources and are considerable less than recorded sales and exports, which presumably were derived in part from accumulated ore stocks.

[4] The accuracy of the germanium figures is questionable.

[5] Tsumeb production, for years ended June 30.

Spain

Table 1.—Spain: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965 [p]	1966 [p]
Metals:					
Aluminum:					
Bauxite	6,047	[r] 11,819	6,772	7,000	[e] 7,000
Aluminum	41,688	45,488	49,644	51,401	60,799
Aluminum alloys	7,155	13,860	21,915	25,067	NA
Antimony:					
Content of antimony concentrate	159	59	[r] 54	86	91
Smelter production	552	853	287	167	NA
Arsenic trioxide	212	146	[r] 143	119	112
Bismuth:					
Content of concentrate kilograms	2,308	4,000	---	---	---
Smelter production do	8,527	11,719	1,898	NA	NA
Cadmium do	60,228	54,100	60,219	[e] 50,000	[e] 46,000
Copper:					
Content of ore mined [1]	7,894	6,835	[r] 8,309	7,494	7,317
Concentrates	16,780	13,126	14,739	NA	NA
Content of concentrate	2,349	1,825	2,650	NA	NA
Content of precipitates	2,073	2,976	2,744	[e] 2,320	NA
Copper sulfate	8,735	6,863	4,565	2,564	2,134
Blister [2]	20,247	23,513	21,405	30,065	18,772
Refined:					
Electrolytic	42,423	43,172	46,710	47,629	50,411
Fire refined	8,890	6,821	3,254	11,500	17,994
Total	51,313	49,993	49,964	59,129	68,405
Gold:					
Content of ore mined for gold troy ounces	6,687	15,625	23,534	8,809	[e] 450
Metal produced, including byproduct recovery do	52,513	27,991	27,601	8,874	409
Iron and steel:					
Iron ore:					
Gross weight thousand tons	5,761	5,193	5,107	5,687	5,069
Iron content do	2,857	2,558	2,529	[e] 2,783	2,488
Pig iron do	2,100	1,911	1,903	2,364	2,158
Ferroalloys:					
Ferromanganese and ferrosilico manganese do	28	28	[r] 33	[r] 38	38
Ferrosilicon do	[r] 27	28	[r] 16	[r] 15	26
Other do	[r] 14	17	17	[r] 16	18
Total do	[r] 69	73	66	[r] 69	82
Steel:					
Ingots and castings do	2,311	2,492	3,150	[r] 3,516	3,680
Rolled products:					
Railway track material do	90	134	118	98	NA
Heavy sections do	297	250	428	556	NA
Light sections do	251	285	297	683	NA
Wire rod do	145	149	149	431	NA
Ingots and semimanufacture, for tubes thousand tons	---	---	---	63	NA
Strip do	109	118	75	173	NA
Plates and sheets:					
Heavy do	267	301	379	415	672
Medium do	37	36	41	52	NA
Sheets, hot rolled do	259	233	283	271	NA
Wheels centers and axles do	16	15	18	24	NA
Other do	62	77	91	345	NA
Semimanufactures for sale do	361	275	386	50	NA
Total rolled products do	1,894	1,873	2,265	3,161	3,569
Rough castings do	35	36	26	106	NA
Rough forgings do	48	51	56	136	NA

See footnotes at end of table.

Table 1.—Spain: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965 [p]	1966 [p]
Metals—Continued					
Iron and steel—Continued					
steel—Continued					
Selected end products:					
Sheets, cold rolled .... do	2	82	100	118	96
Tin plate .... do	37	59	55	93	107
Wire .... do	71	84	56	113	117
Lead:					
Content of ore and concentrate	70,998	[r] 62,194	58,383	56,448	62,391
Refined:					
Primary	72,272	[r] 62,084	57,994	52,376	55,134
Secondary	NA	NA	4,500	8,790	5,600
Total	NA	NA	62,494	61,166	60,734
Manganese ore	12,792	15,293	16,113	17,157	19,004
Mercury:					
Content of ore mined .... 76-pound flasks ..	52,446	55,617	79,212	74,724	69,648
Metal .... do	52,798	56,954	78,322	[r] 82,760	78,002
Silver .... thousand troy ounces ..	5,684	4,955	2,315	[e] 2,320	[e] 2,320
Tin:					
Content of ore and concentrates . long tons ..	231	158	91	113	129
Refined .... do	910	1,286	1,774	1,678	2,957
Solder .... do	577	610	430	NA	364
Titanium:					
TiO_2 content of ore and concentrate	20,593	24,829	21,478	16,100	20,928
TiO_2 produced	5,645	6,434	6,615	7,419	10,290
Tungsten:					
WO_3 content of ore and concentrate	423	88	[r] 22	42	58
Metal	68	72	38	NA	NA
Uranium oxide (U_3O_8) [e]	50	50	[r] 60	[r] 65	90
Zinc:					
Content of ore and concentrate	78,521	91,733	88,459	38,445	55,029
Metal:					
Primary	62,579	64,730	[r] 64,431	54,498	55,592
Secondary	NA	NA	1,500	1,830	2,724
Total	NA	NA	65,931	56,328	58,316
Nonmetals:					
Barite	38,939	48,364	59,133	[e] 59,000	[e] 59,000
Cement:					
Hydraulic:					
Natural .... thousand tons ..	556	595	383	9,951	11,807
Portland and other .... do	6,738	7,153	8,117		
Chalk .... cubic meters ..	35,401	[r] 52,305	91,147	NA	NA
Clays:					
Bentonite	[r] 12,167	14,169	14,467	NA	NA
Kaolin	167,793	207,609	140,927	NA	NA
Other .... thousand cubic meters ..	1,832	2,186	2,430	NA	NA
Dolomite .... cubic meters ..	91,278	118,791	176,731	NA	NA
Feldspar	10,900	12,677	16,730	[e] 16,700	[e] 16,700
Fertilizers:					
Crude:					
Potash:					
Crude natural salts, gross weight thousand tons ..	1,579	1,848	2,151	2,643	3,094
K_2O content .... do	265	300	345	425	485
Processed or manufactured:					
Nitrogenous:					
Ammonium sulfate, nitrogen content	83,548	105,506	130,442	157,192	152,669
Calcium-ammonium nitrate do	53,737	66,730	75,883	85,423	80,335
Other .... do	1,024	2,949	20,609	17,733	32,530
Total .... do	138,309	175,185	226,934	260,348	265,534
Phosphatic:					
Superphosphates .. P_2O_5 content ..	329,294	326,400	326,571	360,647	303,585
Potassic:					
Potassium chloride K_2O content ..	235,103	260,250	292,501	362,495	[e] 442,800
Potassium sulfate	27,235	29,916	35,617	NA	NA
Total	262,338	290,176	328,118	NA	NA

See footnotes at end of table.

Table 1.—Spain: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965 [p]	1966 [p]
Nonmetals—Continued					
Fluorspar:					
Acid grade	100,130	103,979	[r] 123,314	NA	NA
Metallurgical grade	49,878	49,421	[r] 26,367	NA	NA
Total	150,008	153,400	[r] 149,681	212,380	239,501
Garnet	167	71	---	NA	NA
Gravel cubic meters	237,979	278,737	690,744	NA	NA
Gypsum, alabaster, and anhydrite:					
Alabaster cubic meters	8,767	---	---	NA	NA
Anhydrite do	16,283	17,774	---	NA	NA
Gypsum thousand cubic meters	1,468	[r] 1,901	1,405	NA	NA
Industrial earths, not elsewhere specified	6,709	6,793	8,569	NA	NA
Lime:					
Hydraulic	229,961	248,781	72,228	NA	NA
Quicklime	183,737	212,395	256,790	NA	NA
Total	413,698	461,176	329,018	NA	NA
Limestone thousand cubic meters	[r] 11,446	11,191	12,666	NA	NA
Magnesite	71,387	84,654	[r] 93,326	[e] 93,000	[e] 93,000
Marble cubic meters	35,392	51,523	59,709	NA	NA
Marl thousand cubic meters	1,996	[r] 2,283	1,786	NA	NA
Ochre	18,664	15,208	20,170	NA	NA
Pumice (Canary Islands)	1,740	1,529	2,293	NA	NA
Quartz	99,617	73,115	97,006	2,300	2,300
Quartzite cubic meters	191,669	224,080	293,662	NA	NA
Salt:					
Rock thousand tons	626	699	[r] 733	758	[e] 760
Other do	1,014	999	[r] 1,191	1,211	[r] 1,200
Total do	1,640	1,698	[r] 1,924	1,780	NA
Sand, industrial cubic meters	433,420	606,822	477,498	NA	NA
Sandstone do	405,492	452,372	370,972	NA	NA
Sepiolite (meerschaum), saleable	9,122	10,940	16,000	NA	NA
Serpentine cubic meters	482	[r] 516	1,008	NA	NA
Silica and silica sand do	238,022	287,794	348,798	NA	NA
Slate:					
Graphitic do	1,500	1,600	---	NA	NA
Other do	60,519	100,276	43,123	11,019	NA
Sodium sulfates, natural:					
Glauberite, Na_2SO_4 content	1,928	2,517	4,085	NA	NA
Thenardite, Na_2SO_4 content	20,700	33,465	42,486	NA	NA
Stone, dimension and crushed, not elsewhere specified [3] thousand cubic meters	[r] 861	[r] 964	898	NA	NA
Sulfur and pyrites:					
Pyrites, all types:					
Gross weight thousand tons	2,129	2,027	2,393	2,385	2,388
Sulfur content do	1,013	[r] 956	1,135	1,129	1,129
Elemental sulfur all types	[r] 42,507	69,128	[r] 76,662	[e] 77,000	[e] 75,000
Talc (steatite)	27,725	27,503	[r] 26,807	[e] 27,000	[e] 27,000
Tripoli	12,113	10,187	11,346	NA	NA
Mineral fuels:					
Asphalt, natural	8,500	7,800	9,700	NA	NA
Carbon black	1,300	1,300	1,500	1,700	NA
Coal:					
Anthracite thousand tons	2,643	2,773	[r] 2,680	[r] 13,180	2,747
Bituminous do	10,052	[r] 10,135	[r] 9,515		10,050
Lignite do	2,488	2,591	[r] 2,604	2,860	2,632
Bituminous shale do	731	811	712	630	224
Distillation and refinery products:					
From coal:					
Coke:					
High temperature (coke oven) thousand tons	2,738	2,752	[r] 2,569	2,861	2,796
Low temperature (gas house) do	232	199	[r] 180	88	71
Liquid tar do	139	139	129	127	71
Crude benzol thousand barrels	195	182	170	138	194
Refinery products:					
Benzol, benzine, toluol and naphtha do	62	254	229	139	144
Other thousand tons	40	41	40	60	53

See footnotes at end of table.

Table 1.—Spain: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965[p]	1966[p]
Mineral fuels—Continued					
Distillation and refining products—Continued					
From bituminous shale:					
Gas oil thousand tons	41	45	49	52	NA
Solvents do	41	38	30	---	NA
Lubricants do	52	50	64	84	NA
Nonlubricating oils do	6	5	5	---	NA
Paraffin do	2	3	5	4	NA
Total	142	141	153	140	NA
From petroleum:					
Dry gas do	82	88	100	96	128
Liquid petroleum gases do	172	240	326	384	424
Gasoline do	1,039	1,045	1,217	1,448	1,645
Jet fuel do	180	182	160	219	232
Kerosine do	325	351	393	371	427
Gas oil do	1,696	1,963	2,438	2,560	3,401
Diesel oil do	342	254	284	230	239
Fuel oil do	4,105	4,772	5,622	6,826	7,770
Lubricants do	33	36	44	129	141
Nonlubricating oils do	18	19	18	43	39
Asphalt do	249	264	331	356	239
Other do	57	104	238	216	526
Total	8,298	9,318	11,171	12,878	11,810
Gas, manufactured billion cubic meters	402	400	401	422	463
Fuel briquets thousand tons	1,237	1,193	1,054	[r] 394	[e] 350
Electric energy:					
Hydro million kilowatt hours	16,073	21,139	20,646	19,845	NA
Thermal	6,832	4,758	8,880	13,571	NA
Total	22,905	25,897	29,526	33,416	NA

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Includes copper ores, copper uranium ores, and cupriferous pyrites.

[2] Including production from imported ores and concentrates.

[3] Includes basalt, diabase, fonolite, granite, ophite, porphyry and trachyte.

Table 2.—Spain: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and alloys:			
Scrap	8	94	NA.
Unwrought	9,139	308	Colombia 299.
Semimanufactures	2,644	2,021	United States 870; Bulgaria 300; Portugal 301.
Antimony metal, all forms	9	50	NA.
Bismuth metal, all forms kilograms	---	1,814	NA.
Cadmium metal, all forms	200	9,352	NA.
Chromium oxides kilograms	---	2,495	NA.
Copper and alloys:			
Matte	---	235	United Kingdom 215; West Germany 19.
Scrap	87	195	United Kingdom 195.
Unwrought and semimanufactures.	6,499	14,023	West Germany 5,329; Netherlands 6,526; Egypt 574.
Iron and steel:			
Iron ore, excluding roasted pyrites thousand tons	1,650	1,234	Netherlands 328; West Germany 191; United Kingdom 503; France 74.
Roasted pyrites do	803	712	West Germany 580; United Kingdom 92; Netherlands 16.
Oxides	19,365	18,426	United Kingdom 3,721; United States 2,412; Australia 2,416.
Scrap thousand tons	4	---	

See footnotes at end of table.

Table 2.—Spain: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Iron ane Steel—Continued			
Pig iron and cast iron_____do____	148	110	United States 36; Italy 13; West Germany 5; Egypt 31.
Ferroalloys:			
Ferromanganese______do____	10	7	United States 6.
Other_______________do____	8	3	West Germany 2; United Kingdom 1.
Steel:			
Primary forms_______do____	51	(1)	
Semimanufactures:			
Shapes__________do____	6	5	West Germany 1; France 2.
Plates and sheets_do____	32	3	Argentina 2.
Other___________do____	5	9	France 4; Switzerland 1; Cuba 1.
Lead and alloys:			
Ashes and residues containing lead.	1,211	---	
Lead oxide____________________	8	---	
Unwrought_____________________	1,908	317	Netherlands 70; United Kingdom 216.
Semimanufactures______________	32	26	NA.
Magnesium, scrap__________________	9	15	NA.
Manganese ore_____________________	20	2	NA.
Mercury:			
Metal_________76-pound flasks__	70,747	64,781	NA.
Oxides________________________	135	112	NA.
Molybdenum scrap_______kilograms__	---	---	
Nickel scrap______________________	17	15	NA.
Selenium________________kilograms__	543	295	NA.
Silicon___________________________	440	1,046	NA.
Tin:			
Ore and concentrate__long tons__	15	1	NA.
Scrap___________________do____	5	113	West Germany 38; United Kingdom 77.
Unwrought and semimanufactures__________________do____	493	261	United Kingdom 54.
Titanium:			
Ore and concentrate (ilmenite)___	26,722	19,108	All from Belgium-Luxembourg.
Oxide_________________________	1,675	1,795	France 161; Yugoslavia 434; Brazil 364; Argentina 32.
Tungsten:			
Ore and concentrate____________	156	246	United Kingdom 62; West Germany 153.
Metal, all forms_____kilograms__	---	NA	NA.
Uranium ores________________do____	100	25	NA.
Uranium and thorium salts____do____	529	---	
Zinc and alloys:			
Ore and concentrate____________	24,308	6,583	France 843; Netherlands 1,220; West Germany 2,631; Belgium-Luxembourg 1,890.
Ashes and residues containing zinc	34,841	---	
Oxides________________________	115	56	NA.
Unwrought and semimanufactures.	19,432	10,819	West Germany 1,740; Portugal 821; Italy 5,035.
Other:			
Ores and concentrates, not elsewhere specified.	4	6	NA.
Nonferrous waste_______________	3,802	8,329	United Kingdom 8,193.
Inorganic bases, not elsewhere specified.	7,131	900	NA.
Metals, not elsewhere specified:			
Scrap_____________________	71	15	NA.
Ingots and semimanufactures	31	61	United States 44.
Nonmetals:			
Abrasives:			
Natural, crude or ground:			
Siliceous earths and pumice__	537	803	Cuba 335.
Manufactures:			
Grindstones and whetstones__	28	115	NA.
Paper, cloth and powder____	10	8	NA.
sbestos:			
Crude or fiber_________________	29	9	NA.
Asbestos cement products________	2,282	1,923	France 1,677; Andorra 552.
Barite and witherite, crude or ground_	56,877	49,935	Italy 14,040; United Kingdom 15,601; West Germany 10,325.
Cement, hydraulic__________________	9,369	11,392	Mauritania 2,131.
Clays, clay products and refractory products, not elsewhere specified:			
Crude:			
China clay (kaolin), crude or calcined.	18,732	25,106	West Germany 21,798; France 5,901; Italy 3,473.
Bentonite_____________________	5,625	3,247	
Other_________________________	11,407	6,562	

See footnotes at end of table.

Table 2.—Spain: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Crude—Continued			
Construction materials:			
Building bricks	14,779	7,631	France 2,163.
Other nonrefractory	16,983	13,395	France 6,992; Algeria 4,378.
Refractory construction materials, not elsewhere specified.	1,405	3,460	Cuba 2,513; Algeria 906.
Dolomite, crude, calcined or tarred	624	2,083	Portugal 538; United Kingdom 1,545.
Fertilizer materials:			
Natural, animal or vegetable	321	334	France 246.
Manufactured, except ammonia:			
Nitrogenous (ammonium sulfate).	1,500	1,497	All to Senegal.
Phosphatic:			
Basic slag	17,604	NA	NA.
Phosphates and superphosphates.	128,951	64,897	United Arab Republic (Egypt) 20,150; Finland 37,630.
Potassic:			
Potassium chloride	310,047	395,223	Norway 74,796; Italy 38,380; United Kingdom 65,435; United States 48,700; Portugal 32,804.
Potassium sulfate	12,205	7,470	
Ammonia	1,735	NA	NA.
Fluorspar	137,317	154,569	United States 110,093; Japan 4,860; West Germany 37,608.
Gypsum	4,504	6,627	France 476; Nigeria 1,998.
Lime, hydraulic	471	455	NA.
Magnesite, natural, crude or calcined	29,079	30,869	West Germany 23,098; France 5,453.
Mica products	11	7	Belgium-Luxembourg 3.
Pigments, mineral	42	139	NA.
Pyrites, unroasted:			
Cupriferous thousand tons	15	NA	NA.
Other do	1,218	1,168	West Germany 699; France 169; Netherlands 83; Denmark 92.
Quartz and quartzite	13,454	22,831	Italy 7,035.
Salt	334,437	404,010	Japan 126,067; Denmark 34,650; Iceland 39,956; Canada 41,401.
Stone, sand, and gravel:			
Marble and other calcareous	12,594	13,073	Italy 5,570; West Germany 4,789.
Granite, porphyry basalt and sandstone.	5,190	10,236	France 8,040; Italy 1,673.
Flint, gravel and crushed stone	7,998	4,311	NA.
Sand, natural, not mineral-bearing	63,609	30,168	NA.
Slate:			
Crude or rough cut	1,497	337	NA.
Slate products	394	2,945	France 2,036.
Sulfur, elemental all types	275	1,200	All to Morocco.
Talc and soapstone	233	1	NA.
Other:			
Meerschaum, amber, and jet	1,641	2,624	United Kingdom 1,601; France 1,000.
Crude nonmetals, not elsewhere specified.	---	1,620	United States 1,600.
Mineral fuels:			
Coal, coke and briquets thousand tons	56	13	Italy 2; Portugal 9.
Gas, natural million cubic feet	2	NA	NA.
Petroleum:			
Partly refined thousand tons	34	NA	NA.
Refinery products:			
Gasoline do	250	297	United Kingdom 161; Nigeria 38; Portugal 54.
Kerosine do	125	110	United Kingdom 4; Netherlands 31; India 52.
Distillate fuels do	274	233	Ships' bunkers 33; Netherlands 44; United Kingdom 47; Nigeria 24.
Residual fuel oils do	1,051	905	Belgium-Luxembourg 109; United Kingdom 200; for ships 194.
Other do	1	1	NA.
Nonchemical coal and petroleum wastes:			
Nonlubricating oils thousand tons	82	106	United Kingdom 45; Netherlands 61.
Other do	38	35	Portugal 13; Morocco 7.

NA Not available. [1] Less than ½ unit.

Table 3.—Spain: Imports of metals and minerals

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	53,124	85,236	Greece 57,990; France 5,185; Netherlands Antilles 14,792; British Guiana 5,970.
Alumina and aluminum hydroxide	101,138	115,517	France 24,421; Republic of Guinea 51,910; British Guiana 32,799.
Metal and alloys:			
Scrap	166	170	United States 123.
Unwrought	9,984	16,897	Canada 10,269; United States 4,899.
Semimanufactures	6,527	9,032	Canada 1,162; France 2,138; West Germany 1,402; Belgium-Luxembourg 1,697; Italy 1,259.
Antimony:			
Ore and concentrate	532	708	NA.
Oxides	257	225	NA.
Metal, all forms	155	273	NA.
Arsenic:			
Anhydrides	1,472	1,267	France 925; Portugal 330.
Metal	1	5	NA.
Bismuth	21	12	NA.
Cadmium:			
Oxides and hydroxide kilograms	4,376	NA	NA.
Metal, all forms do	17,331	12,867	NA.
Chromium:			
Chromite	18,290	29,576	Republic of South Africa 12,795; Iran 4,032; Turkey 11,279.
Oxides and hydroxide	98	107	Poland 60; West Germany 45.
Metal, all forms kilograms	5,594	7,228	NA.
Cobalt, oxides and hydroxide	63	70	United Kingdom 48; Belgium-Luxembourg 22.
Copper:			
Ore and concentrate	19,883	22,865	Cyprus 18,403; Italy 1,884.
Matte	12,857	8,815	Cyprus 1,829; Israel 5,650; Chile 888.
Oxides and hydroxide	135	142	NA.
Metal and alloys:			
Scrap	10,201	17,513	United States 9,149; West Germany 2,430; Canada 2,181.
Blister and other unrefined	[r]20,386	11,652	Turkey 2,644; Uganda 304; Republic of South Africa 2,618; West Germany 5,731.
Refined, unwrought	[r]8,799	13,731	Belgium-Luxembourg 3,816; Zambia 5,030; United States 2,362.
Master alloys	27	70	Netherlands 24; United Kingdom 18; United States 16.
Semimanufactures	[r]10,194	18,200	United Kingdom 7,261; Canada 1,751; West Germany 1,003; Chile 3,613.
Gold and gold alloys:			
Bullion troy ounces	421,175	432,717	NA.
Iron and steel:			
Iron ore and concentrate:			
Iron ore thousand tons	94	353	Morocco 171; Brazil 37; Algeria 64; Mauritania 30.
Roasted pyrites do	---	9	Italy 9.
Iron and steel scrap do	309	431	United States 107; United Kingdom 165; Germany 49; Canada 24.
Pig iron and ferroalloys do	10	25	Norway 3; France 4; West Germany 7; United Kingdom 6; Canada 2.
Ingots and other primary forms:			
Coils for rerolling do	238	448	Japan 163; Netherlands 142; West Germany 46; United Kingdom 82.
Other do	276	956	United States 209; West Germany 346; France 61; Netherlands 90; Japan 30.
Semimanufactures:			
Bars, rods and sections do	85	143	West Germany 45; United Kingdom 16; Belgium-Luxembourg 33; Italy 15.
Plates and sheets:			
Heavy and medium do	36	191	West Germany 113; Italy 10; France 6; United Kingdom 20; Belgium-Luxembourg 14.
Thin:			
Uncoated do	215	338	United Kingdom 59; France 53; Italy 48; West Germany 75; Netherlands 52.
Tinned do	74	88	United Kingdom 35; France 17; West Germany 14.

See footnotes at end of table.

Table 3.—Spain: Imports of metals and minerals—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Iron and steel—Continued			
Semimanufactures—Continued			
Plates and sheets—Continued			
Thin—Continued			
Other coated do	11	26	France 7; Belgium-Luxembourg 9; West Germany 5.
Hoop and strip do	9	18	France 4; West Germany 5; Italy 4; United Kingdom 3.
Tubes, pipes, and fittings do	26	44	West Germany 17; France 11; Sweden 4; Italy 4.
Other do	11	16	West Germany 4; France 4; Belgium-Luxembourg 2.
Lead:			
Ore and concentrate	---	213	All from Portugal.
Ashes and residues	115	204	NA.
Lead oxides	491	231	France 30; Mexico 140; Belgium-Luxembourg 35.
Metal and alloys:			
Scrap	30	422	Panama 204; Norway 110.
Unwrought	1,658	23,072	United Kingdom 6,786; Peru 6,090; Australia 3,046.
Semimanufactures	21	731	Belgium-Luxembourg 698.
Magnesium, all forms	221	313	Norway 175; United States 126.
Manganese:			
Ore and concentrate	149,668	86,625	Ghana 17,414; Ivory Coast 10,189; Congo (Leopoldville) 9,804; India 12,520; Brazil 5,241.
Oxides	684	453	Netherlands 117; United Kingdom 152; Morocco 130.
Metal	61	150	NA.
Molybdenum and alloys, all forms	13	15	United States 3; Netherlands 4; U.S.S.R. 4.
Nickel:			
Ore and concentrate	477	310	All from United Kingdom.
Matte and speiss	331	441	United Kingdom 208; Norway 39; France 41; Canada 119.
Metal and alloys:			
Scrap	60	147	United Kingdom 137.
Unwrought	902	1,210	United Kingdom 743; Canada 220; Norway 101; France 97.
Semimanufactures	709	1,129	United Kingdom 259; France 422; Canada 157.
Phosphorus	65	51	NA.
Platinum group metals, all forms troy ounces	(1)	(2)	
Selenium	7	8	NA.
Silicon	342	81	NA.
Sodium	84	344	NA.
Silver:			
Ore and concentrate	35	---	
Unwrought thousand troy ounces	3,261	4,868	Mexico 3,566; United Kingdom 213; Morocco 532.
Semimanufactures do	133	---	
Tantalum metal, all forms kilograms	1	5	NA.
Tellurium do	260	1,436	NA.
Tin:			
Ore and concentrate long tons	3,167	2,398	Thailand 771; Republic of Congo 285; France 532; Burma 524.
Oxides do	127	116	United Kingdom 72; West Germany 37.
Metal and alloys, all forms do	53	38	United Kingdom 29; Netherlands 4.
Titanium:			
Ore and concentrate (ilmenite)	3,999	54	NA.
Oxides	2,573	3,788	United Kingdom 1,112; West Germany 1,186; Italy 705.
Tungsten:			
Ore and concentrate	147	191	South Korea 25; Australia 151; Portugal 15.
Oxides kilograms	2,310	2,800	NA.
Metals and alloys, all forms	8	8	France 1; West Germany 4; Netherlands 3.
Vanadium pentoxide	7	17	NA.
Zinc:			
Ore and concentrates	11,381	52,993	Italy 7,152; Canada 4,613; Algeria 13,886; Sweden 8,236; Morocco 11,803.

See footnotes at end of table.

Table 3.—Spain: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Zinc and alloys—Continued			
Ashes and residues containing zinc.	15	341	NA.
Oxides	142	165	West Germany 158.
Metal and alloys, all forms	r 37	1,042	France 1,010.
Zirconium metal, all forms kilograms	151	126	NA.
Other:			
Nonferrous ores and concentrates, not elsewhere specified.	9,644	4,982	NA.
Metalliferous nonferrous waste, not elsewhere specified.	8,361	14,142	NA.
Oxides and hydroxides:			
Bismuth and cadmium	---	5,651	NA.
Barium, strontium and magnesium.	432	740	France 287; Netherlands 204; West Germany 75.
Base metals and alloys, not elsewhere specified:			
Pyrophoric alloys kilograms	5,421	6,380	NA.
Other rare earth metals and alloys do	260	3,331	NA.
Other	118	126	NA.
Nonmetals:			
Abrasives, natural, crude, not elsewhere specified.	1,156	1,876	Greece 1,653.
Asbestos:			
Crude, washed or ground	51,509	49,423	Canada 19,989; Republic of South Africa 16,649; Southern Rhodesia 10,499.
Asbestos cement products	1,251	1,840	Belgium-Luxembourg 1,153; France 463.
Barite and witherite	98	415	West Germany 195; France 142.
Boron compounds:			
Natural salts	11,050	8,947	United States 6,448; Turkey 2,449.
Oxide and acid	321	768	France 643; United States 44; Italy 80.
Calcite	379	23	NA.
Cement, hydraulic thousand tons	1,534	2,548	Portugal 220; Poland 451; Bulgaria 384; Italy 288; Rumania 277; U.S.S.R. 181.
Chalk	852	2,649	France 1,846; Belgium-Luxembourg 730.
Clays and clay products:			
Crude or washed clays:			
Bentonite	9,001	12,507	Morocco 12,615; United Kingdom 38,507; France 6,845.
China clay (kaolin)	16,033	28,404	
Other	14,234	23,271	
Construction materials, not elsewhere specified:			
Refractory bricks and other materials.	27,551	25,602	United States 1,810; France 4,682; Austria 5,600; West Germany 8,814.
Nonrefractory bricks and other materials.	25,418	20,619	Portugal 11,959; Italy 6,644.
Cryolite and chiolite, natural	425	655	All from Denmark.
Diamond:			
Gem, rough or cut, unmounted value, thousands	$937	$1,275	NA.
Industrial do	$346	$666	United Kingdom $79; Belgium-Luxembourg $92; France $113; Netherlands $79; Ireland $253.
Diatomite and other siliceous earths	2,048	1,590	United States 792; West Germany 455; France 289.
Dolomite	2,003	937	Norway 881.
Feldspar	88	1,361	France 700.
Fertilizer materials:			
Crude:			
Nitrogenous	125,142	122,225	All from Chile.
Phosphatic thousand tons	1,101	1,141	Morocco 919; Tunisia 122; United States 94.
Potassic	---	150	NA.
Organic, including guano	3,681	3,989	France 3,694; West Germany 129.
Manufactured:			
Nitrogenous thousand tons	721	728	West Germany 235; Italy 124; Norway 96; United States 67; France 58.
Phosphatic:			
Basic slag (Thomas slag)	20,538	31,823	Belgium-Luxembourg 17,739; France 14,054.
Other	1,741	4,279	France 3,371.
Potassic	721	1,053	West Germany 933.
Mixed	68,522	79,936	West Germany 30,116; Italy 15,441; United Kingdom 21,484.
Ammonia, anhydrous	1,653	5,518	France 5,496.

See footnotes at end of table.

Table 3.—Spain: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Gem stones, not elsewhere specified (except pearls):			
Precious value, thousands	$105	$29	NA.
Semiprecious do	$71	$87	NA.
Industrial	---	$45	NA.
Powder and dust, abrasive do	$81	$117	United Kingdom $43; Netherlands $26; Ireland $26.
Graphite, natural, crude or ground	809	801	West Germany 263; France 261; Malagasy Republic 161.
Gypsum	679	687	NA.
Lime	450	1,227	United Kingdom 352.
Magnesite, natural crude or calcined	3,921	11,734	United Kingdom 2,454; India 4,500; Brazil 1,500; United States 1,468.
Mica:			
Crude, powder and splittings	437	901	India 169; Norway 175; United Kingdom 91; Argentina 200.
Semimanufactures	33	24	France 15; United States 1; Switzerland 5.
Pigments, mineral, including iron oxides and hydroxides.	1,555	1,714	West Germany 1,420.
Salt	395	501	United Kingdom 242; Netherlands 252.
Stone, sand and gravel:			
Quartz and quartzite, crude, ground and roughly squared.	158	674	West Germany 435.
Dimension stone:			
Crude, roughly split, and or roughly squared:			
Granite, porphyry, sandstone.	2,280	5,949	Norway 1,385.
Marble and other calcareous.	3,766	9,784	Italy 6,037; Portugal 1,797; Greece 1,226.
Slate	433	233	NA.
Worked, all types	402	1,317	Italy 262; Portugal 724; Norway 180.
Gravel and crushed stone, including macadam.	1,865	1,010	NA.
Sand, excluding metal-bearing sand.	54,634	74,393	Belgium-Luxembourg 37,821; Morocco 26,898; Netherlands 7,001.
Grinding and polishing stones and wheels.	532	701	West Germany 137; France 142; Sweden 110; Italy 94.
Sulfur and pyrite:			
Pyrite, unroasted	3,900	20	All from Belgium.
Sulfur, elemental, all types	39,680	44,858	France 29,210; United States 10,373.
Sulfur dioxide	243	299	Netherlands 125; France 90.
Sulfuric acid	30,917	77,114	Italy 40,246; United Kingdom 29,987.
Talc and soapstone	871	2,185	Norway 554; France 718; Italy 709.
Vermiculite and mineral wool	361	836	West Germany 128; Denmark 121.
Other nonmetals:			
Crude, not elsewhere specified	2,281	5,445	Republic of South Africa 2,158; France 1,659.
Meerschaum, amber, jet	---	805	All from Italy.
Bromine, fluorine and iodine	24	190	Chile 17; West Germany 152; Israel 21.
Mineral fuels:			
Coal and coke:			
Coal, bituminous and anthracite thousand tons	1,850	1,661	United States 1,282; United Kingdom 19; Poland 211; West Germany 48.
Lignite and briquets do	16	55	All from France.
Peat and briquets do	2	2	United Kingdom 1; Ireland 1.
Coke and semicoke do	101	67	West Germany 35; Italy 20.
Asphalt and bitumen, natural	582	1,029	United States 535; United Kingdom 449.
Carbon black	17,017	19,516	France 11,028; Netherlands 2,818; United States 1,420; West Germany 2,119.
Gas, natural million cubic feet	3,111	8,628	France 2,671; United Kingdom 808.
Other gases (hydrogen and inert gases)	21	78	West Germany 13; Norway 7; France 39; Canada 11.
Petroleum:			
Crude and partly refined thousand tons	12,619	13,396	Saudi Arabia 4,847; Iraq 1,628; Venezuela 2,317; Libya 2,119; Kuwait 1,426.
Refinery products:			
Gasoline do	58	73	Netherlands Antilles 33; Netherlands 10; United Kingdom 21; Trinidad 7.
Kerosine, white spirit do	86	93	Netherlands 26; United Kingdom 33; France 25.
Distillate fuels do	74	42	Italy 17; Iran 10; Netherlands Antilles 10.
Residual fuels do	74	198	Venezuela 8; Netherlands Antilles 42; U.S.S.R. 51; Italy 27; Rumania 3.

See footnotes at end of table.

Table 3.—Spain: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels—Continued			
Petroleum—Continued			
Refinery products—Continued			
Lubricants ---------- do ----	47	25	United States 12; United Kingdom 7; Netherlands 4.
Mineral jelly and wax do ----	7	6	United States 4; West Germany 1.
Nonlubricating oil, not elsewhere specified ----- do ----	19	86	United States 20; Bahrain 56.
Pitch --------------- do ----	45	44	United Kingdom 25; Italy 10.
Pitch coke ----------- do ----	9	9	West Germany 9.
Petroleum coke ------ do ----	27	76	United States 59; West Germany 16.
Other coal, gas and petroleum products:			
Mineral tar ---------- do ----	38	22	United Kingdom 19.
Coal tar distillation products do ----	18	16	United Kingdom 3; Netherlands 8; France 2; West Germany 2.

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[r] Revised. NA Not available.

[1] Value $776,500, of which $574,000 was from the United Kingdom.

[2] Value $699,000, of which $514,000 was from France and $95,000 from the United Kingdom.

Sudan

Table 1.—Sudan: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Metals:					
Chromite thousand metric tons	8	20	17	30	17
Gold troy ounces	932	868	877	300	200
Iron ore thousand metric tons	20	---	(2)	35	39
Manganese ore metric tons	1,016	[e] 250	[e] 8,500	1,000	1,500
Silver troy ounces	---	---	40	---	---
Nonmetals:					
Cement thousand metric tons	[r] 104	116	91	80	100
Gypsum metric tons	7,502	4,520	4,520	4,290	1,921
Magnesite do	---	---	---	---	3,000
Natron do	---	---	151	427	NA
Salt thousand metric tons	58	37	60	52	43

[e] Estimate. NA Not available. [r] Revised.

[1] Most production data are estimates; accurate official statistics are not available. Construction materials, such as clay, sand, gravel, limestone, and marble are also produced, but quantitative data are not available. Also, the Port Sudan oil refinery was in operation intermittently during 1966, but data on product output were not available.

Table 2.—Sudan: Exports of mineral commodities

(Metric tons)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Chromite	11,612	10,160	All to United States.
Iron ore	---	34,567	Yugoslavia 19,409; United States 10,160; Finland 5,000.
Iron and steel scrap	2,053	1,680	United Arab Republic (Egypt) 877; Yugoslavia 400.
Manganese ore	---	[e] [r] 2,000	All to Yugoslavia.
Nonferrous metal scrap	1,073	1,387	United Arab Republic (Egypt) 826; Italy 214; Netherlands 204.
Nonmetals:			
Cement	2	---	
Natron	151	427	United Arab Republic (Egypt) 423.
Salt	996	785	Chad 525; Ethiopia 260.

[e] Estimate [r] Revised.

Table 3.—Sudan: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals: [1]			
Aluminum	905	882	United Kingdom 470; mainland China 256.
Copper	249	296	United Kingdom 196; Denmark 75.
Iron and steel:			
Scrap	6	18	Chad 16.
Ingots and other primary forms	63	57	United Kingdom 52.
Semimanufactures	[r] 244,104	[r] 108,307	Belgium [r] 67,303; United Kingdom [r] 15,473; India 10,346; Italy [r] 5,215; Japan 2,686.
Lead	174	192	United Kingdom 142; Sweden 49.
Silver troy ounces	289	---	
Tin long tons	296	45	Malaya 20; United States 19.
Zinc	59	169	Belgium 158.
Nonferrous metals n.e.s.	---	9	United Kingdom 9.
Metallic oxides, mainly for paints	154	141	Mainland China 45; West Germany 42; United Kingdom 20.
Nonmetals:			
Abrasive materials:			
Natural	155	35	Greece 30.
Grinding stones and wheels	175	225	Denmark 188.
Asphalt, natural	---	101	All from Iran.
Cement thousand tons	337	83	United Arab Republic (Egypt) 37; Yugoslavia 32; Italy 5; United States 4.
Chalk	286	762	Belgium 677.
Clays, crude, undifferentiated	199	253	United Kingdom 145; West Germany 58; Belgium 50.
Clay construction materials, including brick and tile.	1,612	668	United Kingdom 200; Yugoslavia 113; Czechoslovakia 88.
Fertilizer materials:			
Crude	20,010	---	
Manufactured:			
Nitrogenous	50,737	76,606	Japan 16,106; West Germany 12,457; Belgium 12,056; Italy 10,398.
Phosphatic	70	49	Belgium 30; Netherlands 19.
Potassic	10	20	West Germany 10; France 10.
Mixed	5,239	861	United States 801; Netherlands 55.
Sulfuric acid and other inorganic acids	489	167	United Kingdom 90; West Germany 33.
Gypsum	264	196	All from Cyprus.
Lime	314	29	Italy 24.
Mica:			
Crude	5	1	All from Japan.
Worked	4	10	All from United Kingdom.
Potash, caustic	76	1	All from Denmark.
Pryite, unroasted	10	3	All from West Germany.
Salt	1,230	59	All from United Kingdom.
Sand, gravel, and crushed stone	28	40	Italy 24; Belgium 15.
Soda, caustic	2,768	2,196	Netherlands 819; West Germany 775; United Kingdom 252.
Stone, dimension	1,013	18	All from Italy.
Nonmetallic minerals, crude, n.e.s.	202	121	West Germany 77; mainland China 40.
Chemical Elements and bases, inorganic, n.e.s.	3,744	80	West Germany 41; United Kingdom 37.
Nonmetallic mineral manufactures, n.e.s.	18,081	996	United Kingdom 387; Yugoslavia 329; United Arab Republic (Egypt) 98.
Mineral fuels:			
Coal	---	6,362	All from Rhodesia.
Coke and semicoke	300	909	All from Netherlands.
Petroleum refinery products:			
Gasoline thousand tons	89	49	NA.
Kerosine do	[r] 77	31	NA.
Distillate fuel oil do	[r] 177	[r] 93	NA.
Residual fuel oil do	[r] 161	[r] 45	All from United Kingdom.
Lubricants do	12	11	United Kingdom 5; United States 2.
Asphalt and bitumen do	8	4	Iran 2; Saudi Arabia 1.
Other do	1	(2)	(2).
Total do	525	233	
Gas, manufactured (propane)	987	791	NA.
Mineral tar and crude chemicals from coal, oil, and gas distillation	892	221	All from United Kingdom.

[r] Revised. NA Not available.

[1] Unwrought and semimanufactures, including alloys, unless otherwise specified.

[2] Less than ½ unit.

Surinam

Table 1.—Surinam: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite:					
Crude, dry bauxite equivalent:[1]					
For conversion to alumina	-----	-----	-----	277,032	[e] 800,000
For road surfacing and similar uses	50,207	70,198	113,372	NA	NA
Processed, for metallurgical, chemical, abrasive, and refractory uses:					
Production, all grades, gross weight	3,297,000	3,438,000	3,993,000	4,360,000	4,585,000
Shipments, for export market:					
Dried, gross weight	3,060,738	3,271,815	3,748,773	4,125,466	NA
Calcined, gross weight	189,749	210,374	235,465	243,452	NA
Total	3,250,487	3,482,189	3,984,238	4,368,918	[2] 4,584,519
Dry bauxite equivalent[3]	3,242,200	3,477,800	3,977,300	4,346,200	[e] 4,570,000
Alumina:[4]					
Shipments, for export market	-----	-----	-----	59,356	[2] 348,854
Delivered to smelter	-----	-----	-----	12,538	[e] 51,500
Metal, unwrought (exports)	-----	-----	-----	1,253	25,701
Columbium-tantalum ore	-----	[5] 2	NA	[6] 7	NA
Gold troy ounces	2,598	3,548	8,258	6,269	5,159
Tin: Cassiterite concentrate long tons	-----	[5] 2	NA	NA	NA
Nonmetals:					
Clay brick cubic meters	1,316	2,316	1,827	2,599	[e] 4,000
Lithium minerals: Amblygonite (exports)	750	515	NA	NA	NA
Sand and gravel:					
Common sand	NA	NA	NA	149,748	[e] 75,000
Quarry sand	8,366	7,671	5,725	10,423	9,600
Natural gravel	NA	NA	NA	34,034	[e] 11,127
Stone, crushed	17,006	14,782	9,629	13,807	47,000
Minerals fuels: Gas, manufactured[7] million cubic feet	155	161	170	176	NA

[e] Estimate. NA Not available.

[1] Data are not available for crude bauxite produced for processing into dried and calcined products.

[2] Exports.

[3] Calculated on the basis of known average moisture content of dried bauxite shipped by Suriname Aluminum Co., an approximate moisture content of 3 percent for dried bauxite shipped by N.V. Billiton Maatschappij, and an extimated average of 30 percent for the chemically combined water content of bauxite that was calcined. Figures do not include dry equivalent of crude bauxite delivered to alumina refinery or used as road metal or other similar uses.

[4] Additional quantities may have been produced and stocked or converted to stocked metal at yearend.

[5] Imports from Surinam by the Netherlands. The Netherlands also imported 11 tons of unspecified metallic ores from Surinam in 1963, most or all of which was cassiterite or columbite-tantalite or both.

[6] U.S. imports for consumption from Surinam.

[7] Original data reported in thousand cubic meters. Converted at rate of 1 cubic meter equal to 35.315 cubic feet.

Table 2.—Surinam: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite, all grades	3,983,969	4,368,771	United States 3,638,135; Canada 705,856.
Alumina	-----	59,356	All to United States.
Metal:			
Unwrought (domestic)	-----	1,253	Do.
Unwrought (reexports) [1]	-----	11	Netherlands 7; United Kingdom 3.
Semimanufactures (reexports)	12	-----	
Copper, unwrought (reexports) [1]	61	86	West Germany 74; Netherlands 12.
Iron and steel (reexports):			
Unwrought [1]	-----	1,930	Netherlands 1,135; West Germany 935.
Semimanufactures	108	1	Mainly to United States.
Lead, unwrought (reexports) [1]	46	72	Netherlands 59.
Metallic ores, slag, ash, not elsewhere specified	[2] 105	[3] 52	West Germany 50.
Nonmetals:			
Amblygonite	(4)	(4)	
Cement (reexports)	-----	-----	
Salt (reexports)	-----	-----	
Sand, clay, earth	2,156	4,523	Netherlands Antilles 4,344.
Other (reexports) [5]	(6)	1	All to Jamaica.
Mineral fuels (reexports):			
Petroleum refinery products:			
Gasoline 42-gallon barrels	598	975	All to French Guiana.
Kerosine do	69	340	Do.
Distillate fuel oil do	25	13	Do.
Lubricating oil do	129	383	French Guiana 208; Trinidad and Tobago 82.
LPG	3	-----	
Other 42-gallon barrels	1	133	All to French Guiana.
Asphalt, natural bitumens, mixtures	(6)	(2)	Do.
Mineral tar [7]	11	(6)	All to Guyana.

---

[1] Apparently includes scrap derived from imported metal and metal products.

[2] Commodity not specified. Supplemental information from source indicates at least part of quantity shown was amblygonite.

[3] Excludes alumina exports included under this classification. Amount shown may include a small quantity of columbite-tantalite imported from Surinam by the United States and the remainder may represent continued exports of amblygonite to West Germany.

[4] Actual quantity and destination not identified in source. See footnotes [2] and [3].

[5] Largely asbestos and asbestos-cement.

[6] Less than ½ unit.

[7] Includes domestic as well as reexported products.

Source: Algemeen Bureau voor de Statistiek, Suriname: Maandstatistiek van de in–en uitvoer per goederensoort en per land, December (cumulative), 1963–65.

Table 3.—Surinam: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Unwrought	(1)	31	All from United States.
Semimanufactures	1,283	2,066	United States 1,912.
Beryllium, all forms kilograms	125	---	
Copper:			
Unwrought	1	(1)	
Semimanufactures	91	111	United Kingdom 48; United States 32.
Iron and steel:			
Unwrought	22	48	United States 43.
Semimanufactures	23,426	23,951	Netherlands 9,102; Japan 5,995.
Gold, unwrought troy ounces	---	[r] 3,537	All from Netherlands.
Lead:			
Unwrought	---	3	All from United States.
Semimanufactures	27	40	Netherlands 32.
Magnesium, semimanufactures kilograms	(1)	500	All from United States.

See footnotes at end of table.

Table 3.—Surinam: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Mercury 76-pound flasks	3	3	Netherlands 2; United States 1.
Nickel, semimanufactures	10	(1)	
Tin, all forms long tons	7	7	All from Netherlands.
Zinc, all forms	2	38	Netherlands 22; Belgium 15.
Metallic ores, slag, ash, not further specified	---	3	All from United States.
Nonmetals:			
Abrasives, natural	2	1	All from Netherlands.
Asbestos and asbestos-cement building materials	1,154	1,692	United States 713; United Kingdom 626.
Cement:			
Refractory net weight	315	[r] 441	United States 368; Belgium 61.
Other	42,445	50,248	Venezuela 48,138; Netherlands 1,401.
Chalk	212	231	Netherlands 211; Belgium 20.
Clay building materials, nonrefractory	680	929	Netherlands 335; Czechoslovakia 281; West Germany 281.
Earths, pigment and siliceous	58	55	United States 28; Netherlands 27.
Fertilizer materials:			
Nitrogenous	3,170	[r] 3,288	Netherlands 2,979; Trinidad and Tobago 194.
Phosphatic	63	[r] 59	All from Netherlands.
Potassic	52	18	Do.
Not specified	314	[r] 473	Netherlands 363.
Total	3,599	[r] 3,838	Netherlands 3,419; Trinidad and Tobago 194.
Lime	182	4,726	United States 4,525; Netherlands 105.
Refractory brick and similar products	754	1,372	United States 1,293.
Salt net weight	1,177	1,285	West Germany 850; Netherlands 364.
Sand, clays, earth, not further specified	737	739	United States 734.
Stone:			
Dimension, not worked and worked.	890	5,478	United States 2,889; Netherlands Antilles 2,540.
Broken stone, gravel, macadam	3,386	[r] 14,601	Netherlands Antilles 6,847; United States 4,000.
Other	117	161	Netherlands 158.
Other [2]	37	4,368	United States 4,335.
Mineral fuels:			
Solid fuels:			
Coal	37	22	Netherlands 15; United States 7.
Other, not specified	78	7,703	United States 7,630.
Gases, liquefied:			
LP-gases	656	1,475	Trinidad and Tobago 1,474.
Manufactured	86	[r] 154	Trinidad and Tobago 146.
Petroleum refinery products: [3]			
Gasoline:			
Aviation thousand 42-gallon barrels	24	19	All from Trinidad and Tobago.
Other do	122	139	Trinidad and Tobago 138.
Kerosine do	41	44	Mainly from Trinidad and Tobago.
Distillate fuel oil do	514	577	All from Trinidad and Tobago.
Residual fuel oil do	657	996	Do.
Lubricating oil do	21	26	Jamaica 11; Netherlands Antilles 7.
Paraffin and vaseline	69	52	Netherlands 28; United States 19.
Other thousand 42-gallon barrels	19	[r] 5	Trinidad and Tobago 3; United States 1.
Asphalt, natural bitumens, mixtures [4]	1,270	1,476	Jamaica 693; Trinidad and Tobago 658.
Benzol, toluol, xylol	27	[r] 37	Netherlands 32; United States 5.
Mineral tar, pitch, pitch coke	81	273	United States 215; Netherlands 58.

[r] Revised.
[1] Less than ½ unit.
[2] Includes some materials not identified by commodity in source and commodities not listed separately in table.
[3] Excluding LPG and petroleum asphalt.
[4] May include some refinery asphalt.

Source: Algemeen Bureau voor de Statistiek, Surname: Maandstatistiek van de in-en uitvoer per goederensoort en per land, December (cumulative), 1963-65.

Swaziland

Table 1.—Swaziland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Beryl	---	2	---	---	---
Gold troy ounces	2,214	2,092	2,078	1,619	308
Iron ore	---	---	60,193	1,019,957	1,591,222
Tin in concentrates long tons	5	3	r 3	2	1
Silver troy ounces	132	120	130	130	29
Nonmetals:					
Asbestos, chrysotile	29,783	30,255	36,162	37,089	32,787
Barite	62	84	15	491	1,043
Diaspore	203	58	374	---	---
Kaolin	2,488	r 2,006	312	753	587
Pyrophyllite	3,540	2,769	r 1,995	920	435
Mineral fuels:					
Coal:					
Anthracite	---	---	4	30	67
Bituminous	---	---	4,073	29,966	66,759

r Revised.

Table 2.—Swaziland: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964[1]	1965[2]	Principal destinations, 1965
Metals:			
Gold troy ounces	2,078	1,619	All to Rep. of South Africa.
Iron ore thousand tons	60	1,020	All to Japan.
Silver troy ounces	130	130	All to Rep. of South Africa.
Tin concentrates long tons	4	2	All to Rep. of South Africa.
Nonmetals:			
Asbestos, chrysotile	36,160	37,088	United Kingdom 14,725; Rep. of South Africa 10,256; Spain 4,708.
Barite	15	491	All to Rep. of South Africa.
Diaspore	374	---	
Kaolin	312	753	All to Rep. of South Africa.
Pyrophyllite	1,996	920	All to Rep. of South Africa.
Mineral fuels:			
Coal	1,757	7,589	All to Mozambique.

[1] Source: Annual Report of the Geological Survey and Mines Dept., Dec. 1964, p. 30.
[2] Source: Annual Report of the Geological Survey and Mines Dept., Dec. 1965, p. 38.

Sweden

Table 1.—Sweden: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Unwrought, unalloyed, electrolytic, including secondary	17,298	17,066	32,286	30,600	29,500
Semimanufactures [1]	41,698	46,422	[r] 38,026	[e] 48,000	NA
Scrap	4,680	4,336	[r] 4,020	[e] 4,500	NA
Arsenic, white	5,753	14,850	17,970	16,500	[e] 16,500
Bismuth	[e] 70	[e] 70	[e] 68	35	[e] 35
Cobalt	(2)	2	3	NA	NA
Copper:					
Ore and concentrate (20 to 24 percent copper:					
Gross weight	85,254	73,906	79,289	69,600	63,800
Metal content	19,091	16,692	16,190	[r] [e] 16,700	13,336
Unrefined (cement) for sale	1,878	1,788	970	NA	NA
Refined	41,232	45,404	45,652	50,500	51,200
Semimanufactures [1]	137,428	148,853	187,697	NA	NA
Scrap	14,875	23,221	NA	NA	NA
Gold:					
Ore and concentrate, gross weight	76,741	59,365	61,340	44,200	NA
Metal:					
Domestic production thousand troy ounces	129	[r] 115	[r] 118	[r] 116	115
Toll production, for reexport do	51	41	57	[e] 45	NA
Iron and steel:					
Iron ore:					
For direct use (60 percent iron) thousand tons	19,164	19,922	22,685	29,485	28,206
Concentrates (63 to 64 percent iron) do	3,362	3,715	3,934		
Roasted pyrite do	308	267	[r] 296	[e] 300	NA
Agglomerates (sinter and pellets) do	3,607	3,676	4,323	NA	NA
Slag, scale, and other waste do	60	329	389	NA	NA
Iron oxide and hydroxide	2,311	[3] 284	[3] 408	NA	NA
Scrap (from foundries and steelworks) thousand tons	1,280	1,422	[4] 1,432	NA	NA
Pig iron do	1,827	1,888	2,173	[r] 2,287	2,229
Sponge iron do	159	137	152	176	171
Ferroalloys do	136	133	140	151	NA
Steel:					
Ingot:					
Ordinary steel thousand tons	2,724	2,976	3,278	3,432	3,455
Alloy steel do	671	692	907	1,004	1,026
High-carbon steel do	157	176	198	224	219
Castings do	62	55	60	64	64
Semimanufactures:					
Bars and rods [5] do	1,006	1,087	1,210	[r] 1,318	1,267
Sections do	135	155	173	192	202
Plates and sheets do	646	704	804	873	963
Strip, including wide strip do	220	300	384	421	478
Rails and accessories do	92	98	69	70	65
Seamless tube do	185	189	206	235	231
Forgings do	103	92	101	113	129
Other, for sale do	115	98	127	79	35
Total semimanufactures do	2,502	2,723	3,074	3,276	3,370
Lead:					
Ore and concentrate (including silver-bearing):					
Gross weight	94,481	102,689	91,948	[e] 93,000	[e] 96,000
Lead content	67,786	71,026	67,470	[r] 68,900	[e] 69,200
Dust, pelletized	---	1	NA	4,200	5,400
Refined	38,770	40,768	40,362	[r] 40,400	43,700
Semimanufactures [1]	1,118	966	1,207	NA	NA

See footnotes at end of table.

Table 1.—Sweden: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals—Continued					
Lead—Continued					
Oxide	5,647	6,704	7,321	NA	NA
Scrap	1,190	736	1,047	NA	NA
Manganese ore (14 to 17 percent manganese)	3,318	7,317	5,944	25,900	[e] 22,000
Selenium	70	71	82	80	NA
Silicon	6,014	8,155	[r] 7,223	NA	NA
Silver thousand troy ounces	[r] 3,367	[r] 3,580	[r] 3,122	[r] 4,955	4,495
Tungsten:					
Concentrate:					
Gross weight	339	339	---	NA	NA
Metal content	161	164	---	NA	NA
Unwrought	99	90	165	NA	NA
Uranium oxide	9	9	9	[r] 9	9
Zinc:					
Ore and concentrate:					
Gross weight	146,003	147,753	140,176	142,400	[e] 140,000
Metal content	81,853	84,987	77,174	78,900	[e] 77,700
Clinker (70 to 75 percent zinc)	---	---	14,800	22,800	25,600
Oxide	3,929	3,722	3,510	NA	NA
Other, n.e.s.:					
Ores and concentrates value, thousands	$385	$186	$178	NA	NA
Ashes and residues, metal bearing	31	45	22	NA	NA
Alkali, alkaline earth, and rare-earth metals	8	9	9	NA	NA
Nonferrous metals value, thousands	$390	$400	$831	NA	NA
Nonmetals:					
Cement thousand tons	3,074	3,299	3,626	3,719	3,691
Chalk, saleable	16,294	20,552	17,200	NA	NA
Clay and clay construction materials:					
Clays:					
Kaolin, including washed kaolin	26,228	31,723	44,038	41,700	NA
Refractory	204,432	188,381	167,473	154,500	NA
Other ("klinkerlera")	84,871	98,118	100,705	NA	NA
Construction materials:					
Refractory thousand tons	186	[r] 172	185	NA	NA
Nonrefractory:					
Bricks and tiles million units	442	456	467	NA	NA
Other thousand tons	203	[r] 188	206	NA	NA
Corundum (artificial)	1,381	441	527	NA	NA
Diatomite, including calcined, for sale	229	363	217	400	NA
Dolomite, including calcined	131,467	146,911	165,178	NA	NA
Feldspar	54,204	45,641	51,777	47,000	[e] 47,000
Fertilizer materials:					
Crude, apatite concentrate [6]	198	1,168	0	NA	NA
Manufactures:					
Nitrogenous:					
Ammonia, anhydrous thousand tons	64	80	95	NA	NA
Other do	194	193	218	NA	NA
Phosphatic:					
Thomas slag do	34	30	51	[e] 20	NA
Other do	558	517	508	NA	NA
Potassic	4	1	NA	NA	NA
Other	557	609	666	NA	NA
Flint	60	60	---	NA	NA
Fluorspar	3,497	2,951	---	---	---
Lime thousand tons	724	774	848	995	NA
Limestone do	6,839	6,845	7,864	8,521	NA
Mica, ground	57	[r] 20	[r] 21	---	---
Pyrite:					
Gross weight thousand tons	378	403	452	441	[e] 440
Sulfur content do	192	204	231	[e] 221	[e] 220
Quartz do	212	188	[7] 184	NA	NA
Quartzite do	670	613	[7] 823	NA	[e] 15,000
Stone and gravel:					
Building and ornamental stone:					
Unworked:					
Granite, gneiss, etc thousand tons	270	242	[7] 119	NA	NA
Marble and other calcareous do	112	114	[7] 55	NA	NA
Slate and shale [8] do	25	24	[7] 2	NA	NA
Worked, all types do	222	231	237	NA	NA
Crushed stone, including gravel [9] do	6,292	6,861	8,228	NA	NA
Sulfur:					
Elemental (recovered from oil shale)	30,400	26,300	27,442	[e] 22,000	NA
Sulfuric acid (100 percent) and oleum	447,300	474,461	510,000	580,000	NA

See footnotes at end of table.

Table 1.—Sweden: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Talc and steatite	17,419	18,775	16,659	18,600	[e] 19,000
Other, n.e.s.:					
Slag and ash, including kelp	222,685	NA	NA	NA	NA
Other	3,082	2,571	2,837	NA	NA
Mineral fuels:					
Bituminous shale (alum shale):					
For distillation thousand tons	3,225	3,098	3,225	2,551	1,230
For fuel do	261	175	279		
For other use do	16	18	24		
Coal do	148	99	84	59	30
Coke:					
Coke oven do	344	343	375	375	[e] 480
Gashouse do	582	570	[r] 550	530	[e] 525
Peat:					
Briquets do	43	61	41	[e] 50	[e] 40
Baled do	55	47	49	NA	NA
Petroleum:					
Crude (from shale) do	101	79	81	58	25
Refinery products:					
Gasoline [10] do	372	389	512	503	500
Kerosine do	6	5	3	3	---
Distillate fuel oil do	588	640	811	823	835
Residual fuel oil [9] do	1,152	1,290	1,645	1,769	1,647
Liquefied hydrocarbon gases do	28	37	40	45	740
Lubricants do	158	163	563	642	
Bitumen and other do	383	409			
Total refinery products do	2,687	2,933	3,574	3,785	3,722

[e] Estimate. [r] Revised. NA Not available.

[1] Including alloys.

[2] Less than ½ unit.

[3] Figure not belived comparable with that given for 1962.

[4] Not including scrap from cold working operations.

[5] Including wire rod.

[6] Byproduct of iron ore concentration at Vitafors.

[7] For sale.

[8] Not including bituminous shale.

[9] Not including tarmacadam.

[10] Including production from shale oil.

Table 2.—Sweden: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	265	400	All to West Germany.
Oxide and hydroxide [1]	12	NA	NA.
Scrap [2]	901	608	Denmark 289; West Germany 267.
Ingot [2]	2,148	1,792	West Germany 1,098.
Semimanufactures	11,564	8,343	Finland 3,066; Denmark 1,834; Norway 1,686.
Antimony	35	NA	NA.
Arsenic:			
Elemental	350	NA	NA.
Trioxide	13,795	NA	NA.
Cadmium	2	NA	NA.
Columbium	(3)	NA	NA.
Cobalt	9	NA	NA.
Copper:			
Scrap	993	1,429	West Germany 881; United Kingdom 204; Norway 181.
Ingot [2]	12,030	20,099	United Kingdom 8,929; Netherlands 3,352.
Semimanufactures [2]	33,216	36,609	Denmark 10,786; United States 9,514; Norway 7,397.
Gold: [2] [4]			
Unwrought and semimanufactures troy ounces	64,300	NA	NA.
Sweepings, residues, etc. do	64,300	NA	NA.
Iron and steel:			
Iron ore thousand tons	24,357	24,461	NA.
Roasted pyrite do	346	424	United Kingdom 251; West Germany 171.
Slag, dross, scale, etc. do	81	113	United Kingdom 43; Finland 38.
Scrap do	22	19	West Germany 12.
Pig iron, [5] including spiegeleisen do	88	99	United States 25; West Germany 11; Denmark 8.
Ferroalloys do	31	26	United Kingdom 10; United States 4; West Germany 3.
Ingots and other primary forms do	121	101	Finland 22; Argentina 16; Netherlands 12; Norway 9.
Semimanufactures:			
Bars, rods, sections do	305	287	West Germany 64; United Kingdom 41; United States 39; Denmark 28.
Plates and sheets do	292	306	Norway 63; West Germany 57; Denmark 39; United Kingdom 27.
Hoop and strip do	38	41	West Germany 6; United States 6; Norway 4; Denmark 3.
Rails and accessories do	26	30	Norway 10; Denmark 8; United States 5;
Wire do	34	38	United States 7; West Germany 6; France 4; United Kingdom 2.
Tubular products do	159	160	U.S.S.R. 49; West Germany 21; France 10; Denmark 9.
Castings do	1	2	West Germany 1.
Total semimanufactures do	855	864	
Iron oxide and hydroxide	125	NA	NA.
Lead:			
Ore	49,057	41,469	West Germany 35,812.
Oxides	1,909	NA	NA.
Scrap [2]	242	161	Norway 160.
Unwrought [2]	8,293	9,159	Denmark 5,072.
Semimanufactures [2]	19	26	NA.
Magnesium (scrap)	240	266	United States 117; West Germany 106.
Manganese:			
Ore	590	24,888	Finland 24,141.
Metal	131	NA	NA.
Mercury [4] 76-pound flasks	261	NA	NA.
Molybdenum	10	NA	NA.
Nickel:			
Ore	2,153	NA	NA.
Scrap	75	334	Finland 235.
Unwrought [2]	---	72	Netherlands 61.
Semimanufactures	775	825	Denmark 152; Norway 89; United States 85; Australia 81.
Selenium	65	NA	NA.
Silicon	7,273	NA	NA.

See footnotes at end of table.

Table 2.—Sweden: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Silver and platinum-group metals: [2]			
Sweepings, scrap, residues, etc.	79	93	West Germany 60.
Silver: [4]			
Unwrought thousand troy ounces	965	965	West Germany 514.
Semimanufactures do	675		
Platinum-group metals value, thousands	$171	$155	NA.
Tin: [2]			
Scrap long tons	22	25	Norway 17.
Unwrought and semimanufactures do	135	159	Netherlands 71; Denmark 48.
Titanium:			
Ore	25	NA	NA.
Dioxide	24	NA	NA.
Metal	8	NA	NA.
Tungsten:			
Ore	226	34	India 14; Yugoslavia 10; Netherlands 10.
Oxides	23	NA	NA.
Powder, wire, and other articles [2]	31	NA	NA.
Uranium and thorium [2]	4	1	West Germany 1.
Other radioactive material value, thousands	$72	NA	NA.
Vanadium pentoxide	30	NA	NA.
Zinc:			
Ore	148,605	148,608	Norway 57,391; West Germany 37,814; Belgium-Luxembourg 36,753.
Oxides	474	NA	NA.
Scrap	1,500	1,480	United Kingdom 426; Belgium-Luxembourg 383; Norway 278.
Unwrought and semimanufactures [2]	300	204	Netherlands 47; Finland 37.
Other materials, n.e.s.:			
Ores and concentrates	177	123	NA.
Nonferrous ashes and residues	14,001	68,917	United Kingdom 34,726; Norway 25,266.
Oxides and hydroxides [6]	92	2,232	NA.
Base metals, including scrap	67	254	NA.
Nonmetals:			
Abrasives:			
Corundum (natural), pumice, and emery	53	60	NA.
Corundum (synthetic)	715	NA	NA.
Diamonds, industrial value, thousands	$189	$179	West Germany $125.
Dust and powder of gems, including synthetic do	$6	NA	NA.
Grinding stones	2,984	1,942	West Germany 460; Denmark 372; Finland 227.
Asbestos:			
Crude fiber	136	NA	NA.
Asbestos-cement manufactures	22,851	NA	NA.
Cement	79,117	NA	NA.
Chalk	4,700	3,068	West Germany 1,275; Norway 869.
Clay and clay construction materials:			
Clay:			
Kaolin and bentonite	86	15,631	Norway 6,634; Finland 4,270.
Refractory and other	13,712		
Clay construction materials:			
Refractory	21,194	24,215	Norway 8,490; Denmark 7,035.
Nonrefractory	31,691	31,836	Norway 9,511; Denmark 7,838.
Diamond, nonindustrial, unset value, thousands	$526	NA	NA.
Diatomite and other siliceous earths	91	108	NA.
Dolomite, including calcine	4,443	3,721	Denmark 2,180; Norway 1,431.
Earth pigments	---	NA	NA.
Feldspar	27,237	[e] 19,900	Belgium-Luxembourg 4,480; United Kingdom 3,993; West Germany 2,779 (includes fluorspar).
Fertilizer materials:			
Ammonia, anhydrous	105	NA	NA.
Phosphate rock	---	NA	NA.
Manufactured fertilizers:			
Nitrogenous	18,599	24,859	Denmark 13,400; Finland 4,425.
Thomas slag	22,522	20,352	Finland 14,213.
Other	126	121	Denmark 116.
Fluorspar	59	[e] 55	NA.
Graphite	8	24	NA.

See footnotes at end of table.

Table 2.—Sweden: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Gypsum and anhydrite, including calcine	8	13	NA.
Lime	6,340	NA	NA.
Limestone, for flux, cement, etc	563,130	549,380	West Germany 273,696; Finland 220,080.
Magnesite, including calcine	159	205	Denmark 146.
Mica	9	26	NA.
Pyrite	21,242	13,218	United Kingdom 13,218.
Quartz and quartzite	85,745	80,968	Denmark 41,863; West Germany 20,611.
Salt	33	1,378	Denmark 925.
Sodium and potassium compounds, n.e.s.:			
Caustic soda	6,430	NA	NA.
Caustic potash	2,815	NA	NA.
Stone, sand and gravel:			
Dimension stone:			
Granite, gneiss	140,185	143,511	West Germany 71,095; Denmark 40,482.
Marble, bluestone, other calcareous stone	10,409	9,611	Denmark 7,399.
Slate	321	596	Denmark 461.
Worked, all types	5,810	NA	NA.
Gravel and other crushed stone	544,984	588,876	West Germany 427,183.
Sand	28,392	39,342	Norway 15,258; Denmark 12,171.
Sulfur:			
Crude	152	201	NA.
Purified	40	NA	NA.
Sulfuric acid, including sulfur dioxide	11,134	NA	NA.
Talc and steatite	4,197	5,080	Netherlands 2,291; West Germany 970.
Miscellaneous materials, n.e.s.:			
Chemical elements	1,277	[7] 11,104	NA.
Hydrogen and rare gases value, thousands	$38	$39	NA.
Inorganic acids and oxygen compounds of nonmetals or metalloids	11,999	[8] 57,523	NA.
Inorganic bases	---	[9] 7,161	NA.
Other mineral materials	1,655	1,204	Denmark 1,053.
Slag and ash, including kelp	3,544	2,375	NA.
Mineral fuels:			
Asphalt and bitumen, natural	26	NA	NA.
Carbon black	79	NA	NA.
Coal	6,959	2,810	Denmark 2,020.
Coal derivatives	11,994	17,015	Netherlands 9,289; West Germany 4,365.
Coke, including briquets	12,175	9,436	West Germany 6,548; Norway 2,163.
Peat, including briquets	8,662	8,310	Denmark 5,522; Norway 1,164.
Petroleum refinery products:			
Gasoline	129,585	131,071	Denmark 76,209; Norway 54,629.
Kerosine	6,556	7,901	Norway 6,933.
Distillate fuel oil	60,156	69,065	Norway 47,130; Denmark 19,303.
Residual fuel oil	74,051	70,462	Norway 27,979; United Kingdom 21,110.
Lubricants, including grease	45,249	45,208	Finland 18,079; Norway 11,455.
Other, including gases	47,416	50,568	NA.
Total	363,013	374,275	
International bunkers:			
Distillate fuel oil thousand tons	226	248	NA.
Residual fuel oil do	587	602	NA.

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[e] Estimate. [r] Revised. NA Not available.

[1] Not including synthetic corundum.

[2] Including alloys.

[3] Less than ½ unit.

[4] Estimated from quantities reported in metric tons.

[5] Includes cast iron, and shot, grit, sponge, etc. of iron steel.

[6] Includes oxides of lead, zinc, and other metallic oxides comprising Subgroup 513.5, S.I.T.C. (Revised).

[7] Includes silicon, arsenic, selenium, mercury, chlorine, and other elements comprising Subgroup 513.2, S.I.T.C. (Revised).

[8] Includes arsenic trioxide and sulfuric acid.

[9] Includes oxides and hydroxides of aluminum, copper, vanadium, tungsten, and other metals under Subgroup 513.6, S.I.T.C. (Revised).

Table 3.—Sweden: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	31,351	22,988	Greece 16,435.
Oxide and hydroxide [1]	68,282	70,954	Jamaica 60,484.
Scrap [2]	114	NA	NA.
Ingot [2]	25,273	27,252	Norway 12,921; United Kingdom 2,447.
Semimanufactures [2]	20,148	19,015	Belgium-Luxembourg 4,177, United Kingdom 2,789; West Germany 2,441.
Antimony	426	NA	NA.
Cadmium	142	NA	NA.
Chromium:			
Ore	152,055	141,471	U.S.S.R. 67,263; Turkey 45,754.
Oxide	1,303	1,594	West Germany 1,007.
Metal	165	NA	NA.
Cobalt:			
Oxide and hydroxide	4	6	NA.
Metal	237	NA	NA.
Copper:			
Ore	66,966	76,909	Canada 36,709; Finland 13,056.
Matte	10,824	8,431	France 8,232.
Cuprous oxide	105	NA	NA.
Scrap	4,691	10,400	United States 3,597; France 2,435; Denmark 1,185.
Unwrought [2]	62,342	69,577	Chile 23,687; Zambia 16,206; Belgium-Luxembourg 12,944.
Semimanufactures [2]	18,050	35,294	Chile 8,007; Finland 5,543; West Germany 4,674.
Gold:			
Ore	646	NA	NA.
Scrap, residues, etc value, thousand dollars	$68	NA	NA.
Unwrought and partly worked [2] troy ounces	418,000	NA	NA.
Iron and steel:			
Iron ore	72,120	172,116	Liberia 146,739.
Pyrite cinder	9,617	19,603	Norway 8,131; Finland 7,268.
Slag, dross, scale from manufacture of iron or steel	25,157	17,551	France 11,489; United Kingdom 6,051.
Iron oxide and hydroxide	5,524	5,928	West Germany 5,157.
Scrap	239,461	248,268	United States 82,285; United Kingdom 60,480; U.S.S.R. 50,861.
Pig iron [4]	233,760	341,602	Finland 165,016; U.S.S.R. 98,804.
Ferroalloys	39,651	69,432	Norway 32,107; South Africa 14,909.
Ingots and other primary forms [2]	5,864	24,001	Norway 13,323; West Germany 6,049.
Semimanufactures: [2]			
Bars, rods, sections	323,737	358,760	West Germany 108,302; Belgium-Luxembourg 83,015; France 65,643.
Universals, plates, sheets	663,491	734,318	West Germany 189,407; United Kingdom 129,718; Belgium-Luxembourg 100,348.
Hoop and strip	52,515	65,552	Belgium-Luxembourg 25,938; West Germany 12,491.
Rails and accessories	4,102	5,025	West Germany 3,571.
Wire	14,316	17,067	United Kingdom 7,133; Belgium-Luxembourg 4,123.
Tube, pipe and fittings	175,973	204,408	West Germany 88,983; United Kingdom 27,727.
Castings and forgings, unworked	3,388	5,566	Poland 4,543.
Total semimanufactures	1,237,522	1,390,696	
Lead: [2]			
Oxide	1,503	2,232	United Kingdom 989; Poland 418.
Scrap	416	666	Norway 357; Mexico 200.
Unwrought	7,175	7,668	Peru 3,605; Mexico 1,549.
Semimanufactures	2,195	2,005	Belgium-Luxembourg 946; West Germany 470.
Magnesium: [2]			
Unwrought, including scrap	591	478	Norway 365.
Semimanufactures	40	63	West Germany 26; United States 20.
Manganese:			
Ore	56,985	95,975	U.S.S.R. 33,917; South Africa 24,080.
Oxide	243	494	Japan 402.
Metal	1,138	NA	NA.
Mercury 76-pound flasks	1,827	2,118	Italy 638; Spain 493; Netherlands 319.

See footnotes at end of table.

Table 3.—Sweden: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Molybdenum:			
Ore and concentrate	3,071	[e] 3,000	NA.
Oxide	22	NA	NA.
Metal, wrought and unwrought	71	45	United States 16; U.S.S.R. 13.
Nickel:			
Matte	381	584	Canada 584.
Scrap	630	838	United States 501; France 151.
Unwrought [2]	11,784	13,184	United Kingdom 5,323; Norway 5,089.
Semimanufactures [2]	828	795	United Kingdom 411.
Selenium	10	NA	NA.
Silicon	8	NA	NA.
Silver and platinum-group metals:			
Ore and concentrate	---	2,242	Peru 2,242.
Residues and other waste	103	267	United States 234.
Silver:			
Unwrought and semimanufactures thousand troy ounces [3]	2,797	4,244	NA.
Rolled, or other metal value, thousands	$360	$583	United Kingdom $290; West Germany $286.
Platinum-group metals do	$1,389	$1,533	NA.
Tin:			
Oxide long tons	71	67	United Kingdom 50.
Unwrought, including scrap [2] do	792	1,291	United Kingdom 595; Mainland China 215.
Semimanufactures [2] do	107	104	United Kingdom 57; Denmark 23.
Titanium:			
Ore	3,474	[e] 3,500	NA.
Dioxide	13,358	9,803	Norway 2,609; West Germany 1,990; Japan 1,857.
Metal	90	NA	NA.
Tungsten:			
Ore	1,306	1,881	Canada 649; Mainland China 523; South Korea 397.
Oxide	44	NA	NA.
Metal	95	133	West Germany 88; France 40.
Uranium and thorium [2] value, thousands	$1,282	$47	Finland $47.
Other radioactive materials	20	NA	NA.
Vanadium pentoxide	527	NA	NA.
Zinc:			
Ore	---	496	Chile 496.
Oxide	3,409	3,509	Netherlands 1,217; West Germany 959.
Scrap [2]	62	73	Norway 58.
Dust (blue powder)	120	135	United Kingdom 66; Norway 62.
Unwrought [2]	29,097	35,783	Norway 16,209; U.S.S.R. 7,598.
Semimanufactures [2]	1,523	1,540	West Germany 684; Belgium-Luxembourg 334.
Zirconium ore [5]	1,191	[e] 1,554	NA.
Other, n.e.s.:			
Nonferrous ores and concentrates	100	224	Mainland China 224.
Metalliferous ash and waste	12,680	40,018	West Germany 14,325; France 7,151; Turkey 6,238.
Oxides, hydroxides, and peroxides:			
Of strontium, barium, and magnesium	4,507	5,201	Netherlands 4,158.
Other [6]	378	1,579	Finland 317; United States 302; West Germany 300.
Alkali, alkaline earth, and rare earth metals	35	12	United Kingdom 6.
Nonferrous metals	59	2,025	NA.
Pyrophoric alloys	3	6	Austria 2; West Germany 2.
Nonmetals:			
Abrasives:			
Corundum:			
Natural, including emery and pumice	1,209	1,164	Greece 440; Italy 257; Netherlands 194.
Synthetic	4,524	[e] 5,762	NA.
Grinding stones	3,703	3,727	United Kingdom 1,621; United States 651.
Silicon carbide	3,930	NA	NA.
Asbestos:			
Crude	19,758	21,162	Canada 7,920; U.S.S.R. 4,406; Rhodesia 4,202.

See footnotes at end of table.

Table 3.—Sweden: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Asbestos—Continued			
Asbestos cement products	13,729	12,731	Belgium-Luxembourg 6,317; West Germany 2,733.
Other manufactures (non-friction)	2,762	NA	NA.
Barite, including witherite	1,670	1,878	West Germany 1,664.
Borates, natural	1,568	2,458	United States 2,454.
Boric oxide and boric acid	435	549	France 332.
Cement	16,124	37,253	Finland 19,732; Denmark 15,473.
Chalk	9,871	10,863	Denmark 9,237; France 1,537.
Clay and clay products:			
Clay:			
Bentonite	5,900	229,371	United Kingdom 179,509.
Kaolin	162,370		
Refractory and other	51,938		
Clay construction materials:			
Refractory	70,627	90,528	West Germany 26,840; Austria 24,770; United Kingdom 16,495.
Nonrefractory	170,856	136,992	Poland 44,051; Denmark 34,682.
Cryolite and chiolite, natural	1,209	1,178	Denmark 1,178.
Diamond and other precious, semiprecious stones:			
Diamond:			
Industrial, value, thousands	$790	$1,260	United Kingdom $540; Netherlands $478.
Nonindustrial, unset..do	$2,032	NA	NA.
Dust and powder of gems..do	$280	$291	United Kingdom $196.
Other..do	$631	NA	NA.
Diatomite and other siliceous earths	8,503	8,773	Denmark 4,504; Hungary 1,742.
Dolomite, including calcine	31,687	27,883	Norway 21,191.
Earth pigments	287	258	West Germany 67.
Feldspar			
Fertilizer materials:	312	^{e}2,400	NA.
Crude:			
Phosphate rock	426,759	488,457	Morocco 335,047.
Sodium nitrate	30,391	33,517	Chile 33,517.
Manufactured:			
Ammonia, anhydrous	16,952	17,614	Norway 17,370.
Nitrogenous	400,460	425,833	Norway 368,608.
Phosphatic	2,776	669	Netherlands 428.
Potassic	176,457	194,587	East Germany 59,147; West Germany 54,967; France 36,625.
Other	9,048	34,371	United Kingdom 7,674; Belgium-Luxembourg 7,126.
Flint	4,126	NA	NA.
Fluorspar	11,197	^{e}21,400	NA.
Graphite	911	939	West Germany 389; Austria 205; Norway 185.
Gypsum and anhydrite, including plaster	335,903	398,251	Poland 213,915; France 162,692.
Lime	15,884	17,391	Denmark 11,556.
Limestone for flux, cement, etc	76,191	88,360	Denmark 38,213; United Kingdom 29,751.
Magnesite, including calcine	9,352	7,998	Netherlands 3,822; Austria 2,233.
Mica, all forms	1,103	1,269	NA.
Pyrite, unroasted	29,937	82,709	Norway 70,731.
Quartz and quartzite	1,475	22,954	Spain 14,755; Norway 7,182.
Salt	672,208	752,498	Netherlands 316,730; West Germany 170,659; United Kingdom 117,167.
Sodium and potassium compounds, n.e.s.:			
Caustic soda	32,597	33,852	Netherlands 20,603; France 5,210.
Caustic potash	800	1,365	West Germany 1,172.
Stone, sand and gravel:			
Dimension stone:			
Granite, gneiss, etc	3,649	4,781	Norway 3,647.
Marble and other calcareous stone	5,432	6,423	Italy 3,446; Belgium-Luxembourg 1,636.
Slate	7,272	7,546	Norway 3,941; West Germany 3,457.
Worked, all types	4,092	9,418	Portugal 6,351.
Gravel and crushed stone	54,210	17,960	Denmark 10,343; Finland 3,770.
Sand	175,870	235,227	Belgium-Luxembourg 123,746; Denmark 96,058.
Sulfur:			
Crude	127,780	159,493	France 65,623; United States 60,839.
Purified	329	256	West Germany 106.
Sulfuric acid, including oleum	3,467	22,216	Norway 15,071.
Dioxide	4,972	3,265	Norway 2,785.

See footnotes at end of table.

Table 3.—Sweden: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Talc and steatite	14,591	16,752	Norway 10,312.
Other mineral substances	20,277	32,280	NA.
Other substances, n.e.s.:			
Chemical elements [7]	3,204	2,078	NA.
Hydrogen and rare gases value, thousands	$295	$261	Norway $156; Netherlands $49.
Inorganic acids [8]	10,494	10,775	NA.
Mineral fuels:			
Asphalt and bitumen:			
Crude	935	1,037	Trinidad 531; United States 478.
Manufactures	1,883	2,946	West Germany 2,807.
Carbon black	21,350	22,312	Netherlands 8,758; United Kingdom 5,503.
Coal, including briquets thousand tons	1,994	1,704	United States 744; U.S.S.R. 461.
Coal derivatives	45,566	36,365	Netherlands 12,514; Belgium-Luxembourg 7,783.
Coke thousand tons	1,647	1,404	West Germany 695; United Kingdom 186; Czechoslovakia 135.
Lignite and peat, including briquets	5,644	2,685	East Germany— 2,510.
Petroleum:			
Crude [9] thousand tons	3,557	3,824	Venezuela 1,852; Saudi Arabia 731.
Refinery products:			
Gasoline do	2,240	2,424	United Kingdom 430; Italy 376; Netherlands 309; Bahrein 297.
Kerosine, white spirit, etc. thousand tons	420	413	Netherlands 151; United Kingdom 148.
Distillate fuel oil do	5,787	6,082	United Kingdom 1,419; Netherlands 1,185; Venezuela 725.
Residual fuel oil do	5,837	6,206	U.S.S.R. 2,569; Norway 547; Venezuela 501.
Lubricants, including grease do	142	141	United States 61; Netherlands 37.
Other, including liquefied gases do	64	87	NA.
Total refinery products do	14,490	15,353	

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[e] Estimate. [r] Revised. NA Not available.
[1] Excluding artificial corundum.
[2] Including alloys.
[3] Calculated from quantities reported in metric tons.
[4] Includes cast iron, spiegeleisen, and sponge, powder, and shot of iron or steel.
[5] Includes ores of vanadium and tantalum.
[6] Mostly compounds of vanadium, copper, and hydrazine under Subgroup 513.6, S.I.T.C. (revised).
[7] Mostly chlorine under Subgroup 513.2, S.I.T.C. (revised).
[8] Mostly nitric acid under Subgroup 513.3, S.I.T.C. (revised).
[9] Includes partly refined crude as follows: 72,000 tons in 1963, 61,000 tons in 1964, and 99,000 tons in 1965.

Switzerland

Table 1.—Switzerland: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965 [p]	1966 [p]
Metals:					
Aluminum	49,570	60,110	64,235	67,150	68,030
Copper, smelter	800	---	---	---	---
Iron and steel:					
Iron ore ..... thousand tons	[e] 104	96	90	113	66
Pig iron ..... do	[e] 50	42	30	25	25
Ferroalloys (ferrosilicon) ..... do	5	2	2	2	2
Ingots and other equivalent primary forms thousand tons	318	322	345	345	428
Castings ..... do	16	15	25	25	28
Nonmetals:					
Cement ..... thousand tons	3,726	3,581	4,322	4,039	4,326
Gypsum [e] ..... thousand tons	100	100	100	100	100
Lime, hydraulic	192,601	184,426	200,041	176,585	166,717
Salt	167,943	190,716	181,571	230,368	183,361
Slate	450	458	422	317	262
Mineral fuels:					
Asphalt (export)	2,007	1,731	3,571	2,638	2,941
Coke, gas plant	496,322	527,980	469,159	452,300	310,000
Tar and pitch, gas plant	27,505	29,367	26,482	NA	NA
Gas, manufactured ..... million cubic feet	12,717	12,357	11,994	13,031	NA
Petroleum refinery products: [2] [r]					
Gasoline	---	15,000	157,000	223,000	456,000
Jet fuel	---	---	8,000	6,000	13,000
Gas/diesel oils	---	82,000	367,000	444,000	928,000
White spirit and special boiling point liquids	---	2,000	27,000	44,000	NA
Refinery gas	---	7,000	---	---	NA
Residual fuel oils	---	51,000	298,000	368,000	793,000

[p] Preliminary. [r] Revised.

[1] In addition to commodities listed, unreported quantities of several metals, including copper, magnesium, nickel, and zinc were produced from scrap. Building stone, limestone for cement, crushed rock, coal briquets, and peat were also produced but output is not reported.

[2] Data from Organization of Economic Cooperation and Development (OECD).

Table 2.—Switzerland: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	5	---	NA.
Alumina and aluminium hydroxide.	120	112	West Germany 76.
Metals and alloys:			
Scrap	4,475	3,232	West Germany 2,513; Italy 719.
Unwrought	14,692	16,186	United Kingdom 5,493; West Germany 4,834; Italy 2,097.
Semimanufactures	20,229	22,889	United Kingdom 2,768; Netherlands 2,479; Austria 2,058; Sweden 2,039; Denmark 1,599.
Antimony metals, all forms	2	---	NA.
Cobalt oxides and hydroxides	2	3	France 2.
Copper:			
Matte	107	318	Italy 167; West Germany 48.
Metal and alloys:			
Scrap	10,056	12,240	West Germany 8,006; Italy 1,766; Austria 794; France 767.
Unwrought	2,882	3,717	West Germany 1,831; Italy 1,474.
Semimanufactures	10,362	8,240	United States 2,526; Italy 1,112; Israel 624; West Germany 606.
Gold and alloys:			
Bullion and other unwrought. thousand troy ounces	497	839	NA.
Semimanufactures.[1] thousand troy ounces	63	60	NA.
Iron and steel:			
Iron ore, including roasted pyrite	63,639	96,833	All to West Germany.
Metal:			
Scrap	31,053	32,690	Italy 24,979; France 3,485; West Germany 2,897.
Pig iron [2]	505	496	West Germany 261; Denmark 84; Italy 84.
Ferroalloys	15,327	13,005	West Germany 9,019; Italy 2,247; Austria 984.
Ingots and equivalent forms	138	1,469	West Germany 1,078; Italy 368.
Semimanufactures:			
Bars, rods, angles, shapes and sections.	11,071	28,028	West Germany 20,796; Austria 2,547; Italy 2,241.
Universals, plates and sheets.	981	1,647	West Germany 694; Italy 477; Austria 217.
Hoop and strip	1,129	1,234	Austria 496; Denmark 248; West Germany 122; Italy 102.
Rails and railway track materials.	101	492	West Germany 336; Saudi Arabia 81; Austria 69.
Wire	3,676	4,257	Italy 1,153; France 656; Belgium-Luxembourg 654.
Pipes, tubes, and fittings	30,643	34,158	United States 6,255; Denmark 5,293; United Kingdom 2,863; Sweden 2,655; West Germany 2,309.
Rough castings and forgings.	104	113	Italy 78; West Germany 16.
Total	47,705	69,929	
Lead and alloys:			
Scrap	7,041	10,620	Italy 6,802; Belgium-Luxembourg 3,674.
Unwrought	868	350	West Germany 298.
Semimanufactures	85	135	France 46; Austria 33; Belgium-Luxembourg 25.
Magnesium and alloys, all forms	66	86	West Germany 68; Austria 5.
Manganese ore	---	4,801	West Germany 3,540; France 1,261.
Mercury 76-pound flasks	435	29	NA.
Molybdenum, unwrought and semimanufactures.	4	1	NA.
Nickel:			
Mattee and speiss	---	13	All to West Germany.
Metal and alloys:			
Scrap	589	802	Italy 397; West Germany 190; Netherlands 93; United Kingdom 59.
Semimanufactures:			
Anodes	265	193	France 79; West Germany 38.
Other	529	885	Republic of South Africa 405; Netherlands 91; Italy 67.
Platinum group metals, all forms. thousand troy ounces	69	66	NA.

See footnotes at end of table.

Table 2.—Switzerland: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Silver and alloys:			
Ingots, bars, and equivalent forms ____ do ____	211	1,107	Italy 1,141; West Germany 1,060; France 906; Denmark 514.
Semimanufactures [1] ____ do ____	3,621	3,908	
Silicon metal	3,083	3,630	West Germany 2,449; U.S.S.R. 469.
Tantalum and alloys, all forms	2	4	West Germany 2; Austria 1.
Tin:			
Scrap ____ long tons	132	134	West Germany 75; United Kingdom 32; Netherlands 28.
Unwrought and semimanufactures ____ do ____	59	69	West Germany 18; Netherlands 15; Austria 15; Poland 12.
Tungsten and alloys, all forms	23	32	West Germany 27.
Zinc and alloys:			
Scrap and dust	1,033	937	Italy 818.
Unwrought	301	161	All to Italy.
Semimanufactures	12	5	France 2.
Other metals:			
Ores and concentrates	---	---	NA.
Residues, sweeping and waste:			
Of silver and platinum group metals.	54	71	West Germany 33; France 11.
Other	14,942	14,227	West Germany 5,541; Belgium-Luxembourg 3,672.
Oxides and hydroxides of barium, magnesium and strontium.	---	---	NA.
Metals and alloys:			
Alkali, alkaline earth, and rare-earth elements.	261	501	NA.
Nonferrous base metals not elsewhere specified.	7	9	West Germany 4; Netherlands 2.
Nonmetals:			
Asbestos	58	92	West Germany 45; France 10.
Cement	45,845	142,014	West Germany 114,738; France 25,326.
Chalk	5	2	NA.
Clays and clay products:			
Clay	6,927	3,399	West Germany 3,280.
Refractory brick and other materials.	632	524	United Kingdom 205; West Germany 128.
Nonrefractory products	54,027	52,916	West Germany 31,801; Austria 9,602; France 9,350.
Diamond: Industrial, including bort. ____ thousand carats	215	115	West Germany 45; Italy 25.
Diatomite and other infusorial earth	75	93	NA.
Dolomite	165	117	NA.
Feldspar, fluorspar and nepheline syenite.	34	37	NA.
Fertilizer materials, manufactured:			
Nitrogenous	26,996	29,153	Belgium-Luxembourg 11,881; France 9,606; United Kingdom 7,564.
Phosphatic	20	13	NA.
Potassic	29	38	NA.
Mixed	31	45	France 43.
Gem stones, dust and powder, including diamond dust. ____ thousand carats	22,370	28,290	Netherlands 12,140; West Germany 8,275.
Gypsum and limestone:			
Gypsum and plasters	150	69	NA.
Limestone, industrial	5	83	NA.
Lime	2,604	2,672	France 1,296; West Germany 1,205.
Magnesite	13	39	NA.
Mica:			
Crude and partly worked	12	5	West Germany 4.
Worked	197	152	Netherlands 29; Austria 19; Czechoslovakia 18; Norway 17.
Salt	3,335	3,187	West Germany 3,144.
Sodium compound: Caustic soda	3,726	1,779	West Germany 1,584; Austria 185.
Stone, sand and gravel:			
Quartz and quartzite, crude, ground and roughly squared.	21,924	21,456	Italy 17,367; West Germany 1,493.
Dimension stone, crude, roughly split and roughly squared.	25,398	27,957	West Germany 21,425; Austria 2,226.
Gravel and crushed rock, not elsewhere specified.	46,708	66,547	West Germany 39,232; France 13,984; Austria 12,122.
Sand, excluding metal-bearing	29,751	25,603	Austria 11,944; France 6,704.
Grinding and polishing stones and wheels.	478	571	West Germany 199; United Kingdom 104; France 53.

See footnotes at end of table.

Table 2.—Switzerland: Exports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Stone and Gravel—Continued			
Dimension stone, worked including slate, flagstone, and paving blocks.	4,079	4,620	West Germany 3,703; Netherlands 461.
Sulfur: Sulfuric acid	21,077	26,550	West Germany 26,127.
Talc, soapstone, and steatite	1,276	1,276	West Germany 422.
Other nonmetallic materials:			
Bromine, fluorine, and iodine	12,955	12,376	Mainly to West Germany.
Mineral substances, not elsewhere specified.	4,450	342	West Germany 153; Italy 11; Sweden 8.
Mineral fuels:			
Asphalt and bitumen, natural, crude	3,571	2,638	United Kingdom 2,623.
Coal, peat, coke and briquets thereof	1,038	288	NA.
Carbon black	400	315	Italy 136; United Arab Republic (Egypt) 106.
Hydrogen and inert rare gases	---	15	France 11.
Petroleum refinery products:			
Gasoline thousand tons	12	22	Mainly to Austria.
Kerosine do	3	4	Mainly to West Germany.
Fuel oils:			
Distillate do	5	20	Mainly to Austria.
Residual do	58	87	All to Austria.
Lubricants do	1	2	Mainly to Italy.
Petroleum coke do	18	10	France 5; West Germany 4.
Other do	1	1	Mainly to Italy.
Coal, petroleum, and natural gas chemical, not further described.	2,286	2,750	West Germany 2,411; Italy 151.

[r] Revised. NA Not available.

[1] Including rolled gold or silver.

[2] Including sponge iron, shot, grit, and pellets.

[3] Less than ½ of unit.

Table 3.—Switzerland: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	2,594	2,917	Italy 1,745; France 1,100.
Alumina	120,673	136,379	France 73,122; Guinea 38,996; British Guiana 18,415.
Metal and alloys:			
Unwrought, including scrap	5,965	12,248	Norway 5,192; Hungary 1,554; Italy 1,218; U.S.S.R. 1,092.
Semimanufactures	8,158	6,878	West Germany 4,965.
Antimony metal, all forms	355	208	NA.
Arsenic, white	99	79	NA.
Beryllium metal, all forms	1	(1)	NA.
Chromium:			
Ore and concentrate	4,131	3,559	U.S.S.R. 2,486; Mozambique 938.
Oxide and hydroxide	472	469	West Germany 294; United Kingdom 70; Italy 67.
Cobalt oxides and hydroxides	9	7	All from Belgium-Luxembourg.
Copper and alloys:			
Matte	22	116	France 51.
Metal and alloys:			
Scrap	301	428	Israel 167; Chile 100; United Kingdom 41.
Unwrought	38,681	42,393	Belgium-Luxembourg 16,186; Zambia 8,816; West Germany 5,118; United States 4,851.
Semimanufactures	20,772	24,513	United Kingdom 5,559; Italy 4,444; West Germany 4,306; Canada 3,517.
Gold and alloys:			
Bullion thousand troy ounces and other unwrought.	163	245	NA.
Semimanufactures [2] do	130	154	NA.
Iron and steel:			
Iron ore, including roasted pyrite	1,990	2,603	Brazil 1,013; West Germany 964.
Metal:			
Scrap	5,392	5,002	Austria 2,041; East Germany 1,843.
Pig iron [3]	57,420	66,586	West Germany 38,106; United Kingdom 9,644.
Ferroalloys	13,003	13,179	West Germany 2,619; France 2,231; Czechoslovakia 1,857; U.S.S.R. 1,804.
Ingots and equivalent forms	220,492	188,562	France 67,241; West Germany 63,562; Italy 44,115.
Coils for rerolling	2,618	3,011	West Germany 1,937; France 670; Belgium-Luxembourg 403.
Semimanufactures:			
Wire rod thousand tons	68	65	France 37; West Germany 14; Austria 9.
Bars and other rods do	139	160	West Germany 71; France 50; Austria 11; Italy 10; Belgium-Luxembourg 10.
Angles, shapes, and sections. do	211	204	West Germany 78; France 67; Belgium-Luxembourg 51.
Universals, plates, and sheets. do	486	450	France 151; West Germany 134; Belgium-Luxembourg 43.
Hoop and strip do	121	123	West Germany 32; Belgium-Luxembourg 31; France 29.
Rails and railway track materials. do	52	50	Austria 14; West Germany 14; France 8; Italy 8.
Wire do	21	22	West Germany 9; Austria 5; United Kingdom 2; Belgium-Luxembourg 2.
Tubes, pipes, and fittings thousand tons	145	129	West Germany 65; France 30; Italy 17.
Rough castings and forgings do	3	3	West Germany 2.
Total do	1,246	1,206	
Lead:			
Oxides	323	476	Mexico 157; France 141; West Germany 139.
Metal and alloys:			
Unwrought, including scrap	21,413	23,929	Belgium-Luxembourg 6,832; France 4,081; West Germany 3,298; Canada 3,931.
Semimanufactures	446	537	West Germany 393; United Kingdom 51; Austria 40.
Magnesium, all forms	764	524	Norway 440.
Manganese and alloys:			
Ore	1,197	1,196	West Germany 493; France 186; Morocco 182; Netherlands 181.
Oxide	1,424	1,651	Japan 380; West Germany 46.

See footnotes at end of table.

Table 3.—Switzerland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Mercury ---------- 76-pound flasks --	1,566	957	Spain 261; Italy 232; Mexico 203.
Molybdenum metal, all forms --------	20	21	West Germany 9; U.S.S.R. 4; United States 2, France 2.
Nickel:			
Ore and concentrate ------------	35	---	NA.
Metal and alloys:			
Scrap --------------------	---	12	United States 5.
Unwrought, including matte and speiss.	1,338	971	United Kingdom 394; Norway 349; Canada 113; France 101.
Semimanufactures:			
Anodes ---------------	133	135	United Kingdom 44; Norway 34; Canada 28; France 16.
Other ----------------	620	1,285	Canada 335; United Kingdom 331; West Germany 311; France 138.
Platinum-group metals, all forms. ----- thousand troy ounces --	62	47	U.S.S.R. 15; West Germany 10; France 9; United Kingdom 7.
Silver and alloys:			
Ingots, bars, and equivalent forms. ---- do ----	11,175	4,190	West Germany 3,146; United States 1,832; Belgium-Luxembourg 804; Mexico 322.
Semimanufactures [2] ------- do ----	1,920	2,179	
Silicon metal --------------------	675	544	NA.
Tantalum and alloys, all forms. -- kilograms --	3,495	3,239	Mainly from Swden.
Tin:			
Oxide --------------- long tons --	40	34	West Germany 23; United Kingdom 10.
Metal and alloys:			
Unwrought ---------- do ----	727	966	Netherlands 400; Malaysia 295; United Kingdom 211.
Semimanufactures ---- do ----	90	88	Netherlands 40; West Germany 17; Belgium-Luxembourg 16.
Titanium oxides ------------------	6,829	7,065	West Germany 3,149; United Kingdom 1,915; Japan 970.
Tungsten:			
Ore and concentrate ------------	---	25	All from Portugal.
Metal, all forms ---------------	24	33	West Germany 27; France 5.
Uranium, thorium and alloys. ---- kilograms --	---	35	France 25.
Zinc:			
Oxide and peroxide -------------	1,850	1,677	West Germany 683; Netherlands 256; Belgium-Luxembourg 362; France 234
Metal:			
Unwrought; including scrap and dust.	22,145	27,287	Belgium-Luxembourg 13,808; France 2,814; West Germany 2,570; Canada 2,393.
Semimanufactures ----------	1,597	1,982	Belgium-Luxembourg 925; West Germany 776; Italy 192.
Other metals:			
Ore and concentrates:			
Of silver and platinum group metals.	11	6	Denmark 4; West Germany 1.
Other --------------------	4,671	3,245	Australia 2,745; West Germany 216; United Kingdom 150.
Residues, sweepings, waste, and ashes:			
Of silver and platinum group metals. ---- kilograms --	10,945	5,535	NA.
Of nonferrous metals, not elsewhere specified.	544	866	West Germany 704; Netherlands 99.
Oxides and hydroxide of barium, magnesium, and strontium.	209	153	United Kingdom 61; West Germany 47; Italy 16.
Metalloids, not elsewhere specified	1,703	1,652	France 591; West Germany 470; Italy 438.
Metals and alloys:			
Alkali, alkaline earth, and rare-earth elements.	146	182	West Germany 179.
Nonferrous, not elsewhere specified.	621	461	NA.
Ferrocerium and other pyrophoricalloys.	12	10	West Germany 5; Austria 2.
Nonmetals:			
Asbestos ------------------------	12,528	14,668	Canada 8,829; U.S.S.R. 1,925; Republic of South Africa 1,386.
Barite and witherite ---------------	2,021	4,758	West Germany 3,725; France 826.
Boron materials:			
Crude, excluding brine products --	210	443	United States 410.
Oxides and acids --------------	593	487	France 311; Italy 160.
Cement --------------------------	132,087	62,005	Italy 31,603; France 14,486; Austria 5,994.

See footnotes at end of table.

Table 3.—Switzerland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Chalk	12,565	11,589	France 11,311.
Clay and clay products:			
Crude	161,989	178,990	West Germany 78,713; United Kingdom 44,877; France 33,243.
Refractory brick and other materials.	26,711	26,448	West Germany 18,747; France 2,827; Austria 1,883.
Nonrefractory products	141,084	133,870	Italy 104,982; West Germany 20,563.
Cryolite and chiolite	229	157	All from Norway.
Diamond: thousand carats Industrial, unmounted.	595	1,860	West Germany 685; United Kingdom 85; Belgium-Luxembourg 70.
Diatomite and other infusorial earths	1,933	1,593	West Germany 451; United States 420; Denmark 258; France 227.
Dolomite	9,012	11,857	Italy 5,830; France 3,111; West Germany 1,138.
Feldspar, fluorspar, and nepheline syenite.	12,734	12,842	France 4,617; Italy 3,289; West Germany 3,069.
Fertilizer materials:			
Crude:			
Nitrogenous	46	205	NA.
Organic, including guano and dung.	20,396	17,282	France 16,781; Peru 404.
Phosphatic	36,571	37,306	Morocco 20,070; Belgium-Luxembourg 3,791; United States 2,805.
Potassic	108,598	105,382	France 72,101; West Germany 31,902.
Manufactured:			
Nitrogenous	963	1,029	West Germany 539; Austria 271.
Phosphatic:			
Basic (Thomas) slag	192,632	194,328	France 124,782; Belgium-Luxembourg 69,531.
Superphosphate and others.	14,704	12,703	France 6,286; Netherlands 3,844.
Potassic	1,715	12,587	France 11,272.
Mixed	17,083	15,195	France 7,863; West Germany 4,644; Italy 2,556.
Ammonia, anhydrous	23,781	21,812	Austria 12,044; West Germany 7,979; Italy 1,770.
Gem stones, dust thousand carats and powder including diamond dust.	1,170	1,670	United Kingdom 925; Belgium-Luxembourg 315; Ireland 235.
Graphite	561	556	Austria 324; West Germany 155.
Gypsum and limestone:			
Gypsum and plasters	32,230	39,566	West Germany 16,766; Austria 9,657; Italy 9,617.
Limestone, industrial	52,838	70,706	France 53,670; Italy 16,089.
Lime	5,265	9,933	Italy 9,912.
Magnesite	4,310	3,931	Austria 3,766.
Mica:			
Crude and partly worked	689	837	India 295; West Germany 286; United Kingdom 138.
Worked	121	162	France 140.
Pigments, mineral, including iron oxide and hydroxide.	1,905	2,083	West Germany 1,658.
Pumice, emery, corundum, and Other natural abrasives.	7,868	2,852	West Germany 1,602; Italy 882.
Salt	842	1,121	France 1,035.
Sodium and potassium compounds, not elsewhere specified:			
Caustic soda	5,843	6,071	West Germany 3,788; France 1,335; Italy 555.
Caustic potash and sodium and potassium peroxides.	3,865	3,709	West Germany 1,749; France 1,176; East Germany 365.
Stone, sand and gravel:			
Quartz and quartzite, crude, ground, and roughly squared.	10,285	13,865	Italy 9,637; West Germany 3,504.
Dimension stone, unworked, including slate.	82,832	87,096	Italy 39,002; France 18,942; West Germany 15,357; Austria 10,024.
Gravel and thousand tons crushed rock.	3,114	3,110	West Germany 1,231; France 1,309; Italy 542.
Sand, excluding do metal bearing.	1,031	941	Italy 567; Belgium-Luxembourg 151; West Germany 113; France 100.
Grinding and polishing stones and wheels.	1,375	1,358	West Germany 710; United Kingdom 172; Austria 129.
Dimension stone, worked, including slate, flagstone, and paving blocks.	21,748	19,982	Italy 12,187; Austria 4,634; West Germany 2,011.
Sulfur and pyrite:			
Sulfur, elemental, crude	52,947	81,194	United States 60,504; France 19,310.
Pyrite, unroasted	31,918	48,114	Italy 47,995.

See footnotes at end of table.

Table 3.—Switzerland: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Sulfur and pyrite—Continued			
Sulfur, purified	219	255	West Germany 184.
Sulfur dioxide	---	612	West Germany 601.
Sulfuric acid	342	390	West Germany 305.
Talc, soapstone, and steatite	13,308	13,871	France 6,417; Austria 4221; Italy 1,712.
Other nonmetallic materials:			
Bromine, fluorine, and iodine, pure	847	1,542	France 725; Poland 504; East Germany 163.
Slags, dross, scalings, ash, and similar non-metal-bearing metallurgical residues.	156,903	92,959	France 74,513; West Germany 15,239; Italy 3,208.
Mineral substances, not elsewhere specified.	23,675	24,355	West Germany 14,155; France 8,558.
Mineral fuels:			
Asphalt and bitumen, natural, crude	911	1,106	Trinidad 647; United States 249.
Coal, peat, coke, and briquets:			
Coal and coal briquets. thousand tons	1,409	1,144	West Germany 376; United States 246; Belgium-Luxembourg 178; Poland 140; France 95.
Lignite and lignite briquets do	190	151	West Germany 145; East Germany 5.
Peat and peat briquets do	26	[r] 30	West Germany 29.
Coke do	491	476	West Germany 339; Netherlands 98; France 14; Italy 14.
Carbon black	6,549	7,671	France 2,880; West Germany 1,383; Netherlands 1,084.
Hydrogen and inert rare gases	54	58	West Germany 29.
Petroleum:			
Crude and partly refined. thousand tons	838	1,209	Libya 853; U.S.S.R. 291; Kuwait 64.
Refinery products:			
Gasoline do	1,295	1,335	France 525; Italy 385; West Germany 328.
Kerosine do	87	79	Italy 26; France 25; Netherlands 16.
Fuel oil:			
Distillate do	3,401	4,050	France 1,251; Italy 1,240; West Germany 577.
Residual do	1,058	1,181	France 498; West Germany 497; Italy 155.
Lubricants do	71	71	United States 18; Italy 12; United Kingdom 12.
Liquefied petroleum gases. do	11	13	France 8; Netherlands 3.
Mineral jelly and wax. do	8	8	United States 3; West Germany 3; East Germany 1.
Petroleum coke and pitch coke. do	52	55	West Germany 34; United States 19; Italy 2.
Bitumen and other residues. do	218	233	France 104; West Germany 79; Italy 23.
Other do	19	20	West Germany 12; France 3; Netherlands 1.
Coal, petroleum, and natural gas: Chemicals, not further described. do	27	26	France 10,592; West Germany 7,304; Czechoslovakia 3,325.

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[r] Revised. NA Not available.

[1] Less than ½ of unit.

[2] Including rolled gold or silver.

[3] Including cast iron, sponge iron, spiegeleisen, powder, shot, grit, and pellets.

Syrian Arab Republic

Table 1.—Syrian Arab Republic: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965 [e]	1966 [e]
Nonmetals:					
Cement — thousand tons	607	685	635	[r] 674	617
Glass sand	[1] 8,000	NA	NA	10,000	10,000
Gypsum	15,000	[e] 15,000	20,000	15,000	15,000
Salt — thousand tons	18	15	[r] 16	[r] 21	20
Mineral fuels:					
Asphalt, natural	32,633	36,782	36,000	56,900	60,000
Petroleum refinery products:					
Gasoline — thousand 42-gallon barrels	995	1,076	1,223	1,293	NA
Kerosine — do	818	819	938	1,131	NA
Diesel fuel — do	1,501	1,881	2,138	1,939	NA
Residual fuel — do	2,183	2,222	2,532	2,777	NA
Asphalt — do	127	158	185	180	NA
Liquefied petroleum gas — do	49	84	92	96	NA
Total refinery products — do	5,673	6,240	7,108	7,416	NA

[e] Estimate. NA Not available.

[1] Minimum estimate based on Damascus plant capacity and 1962 Syrian production. Plant supplied from nearby sand deposits.

Table 2.—Syrian Arab Republic: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel:			
Scrap	7,612	7,240	France 5,800; Lebanon 1,440.
Semimanufactures	98	60	Lebanon 37; Saudi Arabia 23.
Lead: Scrap and semimanufactures	120	70	Jordan 31; Lebanon 27.
Nonmetals:			
Abrasives, all types	50	58	Lebanon 52; Jordan 4.
Asphalt	100	560	All to Cyprus.
Gypsum	3,989	8,453	Lebanon 7,990; Jordan 461.
Talc	114	82	All to Jordan.
Mineral fuels: Petroleum refinery products:			
Gasoline — thousand 42-gallon barrels	114	716	U.S.S.R. 471: W. Germany 116.

Source: Ministere Des Finances, Damascus. Statistiques Du Commerce Exterieur. 1965, 1061 pp.

Table 3.—Syrian Arab Republic: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Ingots	292	435	Lebanon 128; United Kingdom 98; Saudi Arabia 89.
Semimanufactures	1,115	1,320	Lebanon 511; mainland China 306; West Germany 260.
Copper:			
Ingots, including scrap	85	50	Kuwait 18; Jordan 13.
Semimanufactures	1,023	1,058	Yugoslavia 278; United Kingdom 240; Italy 144.
Gold, platinum, and alloys troy ounces	11,799	15,896	United Kingdom 7,298; France 5,106.
Iron and steel:			
Pig iron	---	318	U.S.S.R. 205; Bulgaria 96.
Scrap	1,652	1,585	Lebanon 646; Kuwait 478; Saudi Arbaia 285.
Semimanufactures	99,431	77,191	Hungary 16,875; Czechoslovakia 15,431; Poland 8,035; Italy 6,069; U.S.S.R. 5,513.
Lead:			
Ingots	357	485	Denmark 203; Saudi Arabia 76.
Semimanufactures	116	11	Lebanon 5; France 3.
Silver troy ounces	2,625	575	West Germany 483; France 88.
Tin:			
Ingots long tons	86	82	Malaysia 35; mainland China 31.
Semimanufactures do	4	---	
Zinc, all forms	116	121	Jordan 33; Belgium 31; Brazil 30.
Nonmetals:			
Abrasives, all forms	119	188	Japan 100; Greece 51.
Asbestos	5,166	4,248	Czechoslovakia 2,300; Lebanon 1,766.
Building stone	3,500	1,782	United States 434; Czechoslovakia 340.
Cement	20,508	20,098	Yugoslavia 10,860; Denmark 3,860.
Chalk	1,580	1,405	France 765; Belgium 540.
Clays	151	76	West Germany 61; United Kingdom 9.
Fertilizers (minerals and chemicals)	41,731	75,666	West Germany 17,628; Bulgaria 14,898; Lebanon 10,937; Belgium 8,478.
Fuller's earth	460	392	West Germany 260; Italy 60.
Graphite	51	26	United Kingdom 10; Italy 10.
Magnesite	---	15	All from India.
Marble	1,462	4,944	Italy 2,990; Jordan 1,084.
Ocher aud other earth colors	88	64	Turkey 42; Spain 15.
Salt	---	15,641	United Arab Republic (Egypt) 9,000; Jordan 5,894.
Sand (including quartz)	2,378	1,260	Libya 1,149; France 50.
Sulfur	248	901	France 509; West Germany 342.
Talc	378	493	Mainland China 458; India 35.
Mineral fuels:			
Coal (including briquets)	2,328	41	Netherlands 29; Switzerland 12.
Coke	2,028	3,166	West Germany 2,002; Turkey 929.
Petroleum:			
Crude thousand 42-gallon barrels	7,563	7,581	All from Iraq.
Refinery products:			
Gasoline do	61	87	United States 47; Venezuela 14.
Kerosine do	64	70	Venezuela 23; Iran 19; France 16.
Diesel fuel oil do	2,477	982	Iraq 652; Kuwait 243.
Lubricants do	76	125	United Kingdom 70; Austria 10; Netherlands 10.
Liquefied petroleum gas do	46	11	Italy 8; Lebanon 2.
Other do	15	6	Rumania 2; West Germany 1.
Total liquids do	2,739	1,281	
Asphalt	2,183	1,454	United Kingdom 654; United States 394.

Source: Ministere Des Finances, Damascus. Statistiques Du Commerce Exterieur. 1965, 1061 pp.

Taiwan

Table 1.—Taiwan: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Alumina [e]	24,000	26,000	43,000	42,000	NA
Aluminum ingots	11,009	11,928	[r] 19,372	18,912	17,217
Aluminum sheet	6,234	5,687	8,104	9,237	9,422
Copper:					
Ore, 0.61 to 0.77 percent Cu	166,849	117,618	119,973	114,191	NA
Concentrates, 13 to 14 percent Cu	12,167	8,272	9,291	10,313	NA
Mine	2,107	1,619	[r] 1,738	1,546	1,993
Electrolytic copper	[r] 2,490	1,481	1,605	1,885	2,319
Gold:					
Gold-copper ore [1]	196,433	170,392	200,494	212,500	NA
Gold ore (1.50 ounces Au per ton in 1965)	NA	1,553	1,483	1,581	NA
Refined gold troy ounces	24,026	31,710	17,660	82,148	41,805
Iron and steel:					
Iron ore:					
Limonite, 35 to 40 percent Fe	515	576	1,021	5,633	15,000
Magnetite, 50 percent Fe	5,814	4,705	5,877	8,852	
Pig iron and ferroalloys thousand tons	63	54	62	72	71
Steel ingots and castings do	182	275	300	440	300
Rods, bars, and slabs do	182	215	236	260	326
Silver troy ounces	80,136	61,440	[r] 60,633	87,315	79,473
Nonmetals:					
Asbestos	476	548	477	801	654
Cement thousand tons	[r] 1,871	[r] 2,246	2,355	2,444	3,112
Clays:					
Ceramic and pottery thousand tons	40	40	40	NA	NA
Paper filler do	3	3	3	NA	NA
Used in cement do	372	460	471	NA	NA
Brick and tile do	500	500	500	NA	NA
Total do	915	1,003	1,014	1,314	NA
Dolomite, about 19 percent MgO	29,837	30,904	32,684	50,577	51,578
Gypsum, 75 to 96 percent gypsum	16,285	26,588	17,094	27,758	8,413
Lime	75,123	79,491	91,275	102,954	106,971
Limestone thousand tons	3,292	3,680	3,717	4,076	NA
Pyrites, 25 to 45 percent sulfur	[r] 45,373	46,760	46,324	39,260	42,005
Salt, sea thousand tons	595	626	602	[r] 560	411
Sand, glass do	68	80	94	115	NA
Sulfur:					
Refined, 97 to 99 percent sulfur	7,582	7,259	6,492	4,495	4,595
Contained in pyrites	[r] 20,483	[r] 17,242	17,081	16,000	16,900
Recovered from refinery gases, 99 percent sulfur	2,164	2,347	2,825	2,386	2,375
Talc, mostly soapstone grade	13,409	14,787	16,981	15,229	28,752
Mineral fuels:					
Carbon black	206	193	197	637	NA
Coal, subbituminous to high-volatile bituminous:					
Dust and lump thousand tons	3,618	3,878	3,978	NA	NA
Coking do	936	932	1,050	NA	NA
Total do	4,554	4,810	5,028	5,054	5,015
Coke:					
Coke oven, beehive and semicoke thousand tons	109	199	85	84	257
Gas plant do	119	34	160	173	
Natural gas million cubic feet	1,433	1,890	6,322	11,557	16,590
Petroleum:					
Crude thousand 42-gallon barrels	14	19	61	131	226
Refinery products:					
Gasoline do	2,001	[e] 2,040	2,170	2,239	2,739
Kerosine do	24	[e] 25	250	289	213
Jet fuel do	NA	NA	1,390	1,673	NA
Distillate fuel oil do	1,609	[e] 1,420	1,717	2,164	2,354
Residual fuel oil do	3,578	[e] 3,830	3,944	5,856	7,414
Asphalt thousand tons	68	[e] 56	40	53	80
Other thousand 42-gallon barrels	NA	NA	NA	88	NA

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[e] Estimate. [r] Revised. NA Not available.

[1] Average grade about 0.1 ounce gold per ton, 3.2 ounces silver per ton, 0.3 percent copper, and 5 percent sulfur.

Table 2.—Taiwan: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and alloys:			
Unwrought	7,206	5,735	South Korea 2,594; United States 1,317; Netherlands 400; United Kingdom 325; Hong Kong 320; Iran 268.
Semimanufactures	[r]3,245	2,701	South Viet-Nam 2,168; Hong Kong 212; United States 148; Thailand 125.
Copper:			
Ore and concentrate	14,485	12,840	All to Japan.
Unwrought	3	5	All to Singapore.
Semimanufactures	[r]225	255	South Viet-Nam 157; Singapore 92.
Iron and steel:			
Pig iron	4,533	5,945	South Viet-Nam 5,895.
Semimanufactures thousand tons	66	81	South Viet-Nam 54; Thailand 10; Hong Kong 8.
Ferroalloys	1,469	1,290	Philippines 635; Thailand 390; Pakistan 122.
Nonmetals:			
Asbestos	893	87	Philippines 81.
Cement thousand tons	911	682	South Viet-Nam 331; Hong Kong 152; Philippines 53; Kuwait 38; Sabah 36; Australia 25.
Fertilizers, chemical	19,987	32,013	South Viet-Nam 32,000.
Salt thousand tons	399	302	Japan 241; South Korea 18; Malaya 13.
Mineral fuels:			
Coal, coke, and briquets thousand tons	111	15	Philippines 6; Singapore 3.
Petroleum refinery products:			
Gasoline do	--	36	Philippines 35.
Kerosine thousand 42-gallon barrels	[r]10	---	
Fuel oil thousand tons	82	37	Hong Kong 15; Philippines 14; United States 7.
Lubricating oil 42-gallon barrels	214	3,430	South Korea 2,260; Japan 312; Hong Kong 302.
Pitch and asphalt thousand tons	13	12	Sabah 5.

[r] Revised.

Source: Statistical office of the United Nations.

Table 3.—Taiwan: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Bauxite	89,865	104,741	Sabah 72,019; Malaya 30,312.
Scrap	596	1,211	Hong Kong 320; United States 290.
Unwrought	1,091	568	United States 445.
Semimanufactures	[r] 144	123	United States 75; Japan 46.
Chromium ore and concentrate	NA	270	Philippines 150; Japan 120.
Copper and alloys:			
Unwrought	2,045	1,473	Japan 1,423; United States 50.
Semimanufactures	1,631	2,747	Japan 2,454; Chile 130.
Iron and steel:			
Ore and concentrate	77,501	31,103	Malaya 20,523.
Scrap thousand tons	[r] 261	450	United States 310; Hong Kong 34; Australia 15.
Ferroalloys	245	254	Japan 164; West Germany 65.
Billets, blooms, and other unwrought products	3,056	6,332	Japan 4,990; United States 1,219.
Semimanufactures thousand tons	[r] 192	257	Japan 240.
Lead and alloys:			
Unwrought	[r] 2,491	3,180	Japan 1,218; Australia 749.
Semimanufactures	144	76	Japan 55.
Manganese dioxide	513	1,122	Japan 1,113.
Mercury 76-pound flasks	1,279	2,008	Japan 785; Italy 640; United States 465.
Nickel:			
Ingot and other primary forms	102	108	Norway 45; Canada 42.
Semimanufactures	5	17	United States 8.
Tin and alloys, semimanufactures long tons	102	232	Malaya 223.
Titanium dioxide	1,385	1,589	Japan 1,304; United States 121.
Zinc:			
Unwrought	4,198	5,721	Japan 3,842; Australia 1,005; United States 682.
Semimanufactures	254	346	Japan 183; Australia 103.
Other metal scrap	1,289	1,285	Hong Kong 362; Ryukyu Islands 278; United States 170; Thailand 169.
Nonmetals:			
Abrasives	[r] 789	980	Japan 831; United States 139.
Asbestos	[r] 1,049	1,630	Canada 708; Republic of South Africa 705; Japan 197.
Fertilizer materials:			
Ammonium sulfate	173,753	110,737	All from Japan.
Other nitrogenous	76,550	72,540	Do.
Phosphate rock[e] thousand tons	101	116	Mostly from Morocco.
Calcium phosphate	10,100	1,126	Mostly from United States.
Potassic	94,482	90,270	United States 54,105; Canada 20,215; West Germany 10,000.
Others	500	600	Mostly from Japan.
Graphite, crystalline	1,546	2,892	South Korea 2,770; United States 84.
Gypsum	59,610	45,201	Mexico 29,489; United Arab Republic (Egypt) 7,680; Cyprus 1,650.
Sulfur	88,229	118,662	Canada 60,416; United States 35,930; Mexico 22,310.
Mineral fuels:			
Coke, petroleum and others	5,713	17,558	United States 16,076.
Petroleum:			
Crude thousand tons	1,286	1,399	Iraq 1,375; Iran 25.
Refinery products:			
Fuel oil thousand tons	---	20	Iraq 19.
Lubricating oil thousand 42-gallon barrels	168	181	Japan 96; United States 81.
Lubricating grease	1,337	1,493	Japan 848; United States 631.
Paraffin wax	1,997	2,328	Japan 1,987; United States 198; Indonesia 124.
Transformer oil	1,311	1,245	Japan 883; United States 342.
Mineral oils	1,266	7,910	Japan 4,641; United States 3,261.
Pitch and asphalt	4,025	3,618	United States 3,127; Japan 483.

[e] Estimate. [r] Revised. NA Not available.

Source: Statistical office of the United Nations.

Tanzania

Table 1.—Tanzania: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals:					
Gold troy ounces	101,972	102,917	93,040	90,819	55,473
Silver do	23,959	22,669	25,329	22,865	10,572
Tin, content of ore long tons	218	234	287	255	353
Tungsten, ore and concentrate, 60 percent WO_3	---	---	---	---	11
Nonmetals:					
Artstone	5	502	457	27	11
Bentonite	---	---	5	---	---
Cement	---	---	---	---	47,681
Diamond:					
Gem carats	323,177	275,958	337,711	[e] 828,356	946,656
Industrial do	324,000	312,753	326,059		
Gem stones, semiprecious and precious, exclusive of diamonds [3] kilograms	521	386	956	1,318	2,107
Gypsum	[r] 2,200	1,894	2,957	4,560	4,826
Kaolin	159	182	111	NA	310
Lime	[r] 2,296	1,260	2,169	1,428	8,906
Magnesite	---	85	495	1,143	4,781
Meerschaum	1	16	16	100	NA
Mica, sheet and scrap	99	107	243	271	487
Salt thousand tons	30	34	33	[r] 39	41
Vermiculite	65	27	131	98	161
Mineral fuels: Coal, bituminous thousand tons	3	2	1	2	2

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[r] Revised. [e] Estimate. NA Not available.

[1] Data given for certain commodities are actually exports.

[2] In addition to commodities listed, construction materials such as clay, sand, gravel, and stone are produced, but quantitative data are not available.

[3] Generally includes ruby, sapphire, chrysoprase, corundum, garnet, tourmaline, and zircon, data on some of which were not available.

Table 2.—Tanzania: Exports of mineral commodities to countries outside the East African Common Services Organization [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965 [2]
Metals:		
Gold, refined ... troy ounces	93,040	90,819
Iron and steel, scrap	8,279	2,355
Silver, refined ... troy ounces	r 25,329	22,865
Tin concentrate, cassiterite ... long tons	r 396	351
Nonferrous metals, scrap	547	656
Nonmetals:		
Artstone	412	27
Cement	---	48
Clays:		
Bentonite	5	---
Kaolinite	10	---
Diamond ... carats	r 663,770	828,356
Gem stones, other than diamond:		
Ruby and sapphire ... kilograms	59	473
Other ... do	r 897	1,318
Gypsum	2,957	4,560
Lime	15	15
Magnesite	496	17,236
Meerschaum, scrap	---	102
Mica, sheet and waste	243	273
Salt	r 10,209	15,213

r Revised.

[1] Does not include reexports.

[2] Data on destinations by country are not available.

Table 3.—Tanzania: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]
Metals:		
Aluminum:		
Unwrought	2,252	2,062
Semifabricated	945	NA
Copper:		
Unwrought	1	NA
Semifabricated	62	NA
Gold bullion troy ounces	1,434	NA
Iron and steel:		
Iron ore	769	NA
Pig iron and ferroalloys	244	NA
Semimanufactures	39,405	36,025
Lead, all forms	29	NA
Nickel, all forms	1	NA
Tin, unwrought long tons	20	NA
Zinc:		
Unwrought	1,429	NA
Semimanufactures	26	NA
Nonmetals:		
Abrasives, grinding and polishing wheels and stone	13	NA
Cement	3,474	986
Fertilizers:		
Nitrogenous	13,409	21,470
Phosphatic	891	
Potassic	912	
Other, manufactured, including mixed	3,716	
Lime	2,106	NA
Mica	4	NA
Salt	3,777	2,860
Sulfur	243	NA
Mineral fuels:		
Solid:		
Coal	145	523
Coke	426	
Petroleum refinery products:		
Gasoline thousand 42-gallon barrels	511	119
Kerosine do	280	164
Distillate fuel oil do	472	282
Residual fuel oil do	89	3
Lubricating and other oils do	49	47
Greases, jellies and waxes	r 438	480
Asphalt and bitumen	926	NA
Liquefied petroleum gas	425	NA
Other refinery products, not further described	140	NA

[1] Data on sources by country are not available.

Thailand

Table 1.—Thailand: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Antimony:					
Ore, 40 to 45 percent antimony	53	1,239	2,819	2,502	2,373
Mine [e]	17	613	1,269	1,130	1,068
Metal, plus 99 percent antimony	35	105	258	173	213
Iron and steel:					
Iron ore, 59 to 63 percent iron thousand tons	45	16	191	750	692
Pig iron do	5	6	5	5	2
Steel ingots and castings do	7	3	4	7	[e] 5
Lead, mine [e]	2,359	2,264	3,656	5,581	6,371
Manganese ore [1]	2,898	6,609	11,054	33,428	70,602
Tin:					
Ore and concentrate long tons	19,997	21,276	21,288	25,996	30,798
Mine do	14,679	15,585	15,595	19,047	22,565
Metal do	---	---	---	5,522	16,948
Tungsten ore and concentrate (65 percent WO_3)	394	189	397	510	517
Zinc, mine (in lead-zinc ore) [e]	950	855	1,380	2,110	2,400
Nonmetals:					
Cement thousand tons	963	996	1,060	1,249	1,483
Fluorspar, 80 to 85 percent calcium fluoride	10,710	29,230	63,538	51,829	48,027
Gypsum	21,000	23,890	41,900	11,240	39,629
Marl (used for cement) thousand tons	936	[e] 1,000	1,058	1,105	1,162
Salt, sea, 85 to 90 percent sodium chloride do	258	266	190	188	[e] 200
Mineral fuels:					
Coal, lignite thousand tons	135	137	104	125	171
Petroleum:					
Crude [e] thousand 42-gallon barrels	50	45	45	40	40
Refinery products: [2]					
Gasoline do	NA	NA	NA	NA	3,785
Kerosine do	NA	NA	NA	NA	111
Jet fuel do	NA	NA	NA	NA	1,677
Distillate fuel oil do	NA	NA	NA	NA	8,949
Residual fuel oil do	NA	NA	NA	NA	
Lubricating oil do	NA	NA	NA	NA	15
Asphalt	NA	NA	NA	NA	72,546
Liquefied petroleum gas	NA	NA	NA	NA	5,465
Total thousand 42-gallon barrels	NA	NA	2,961	11,337	15,040

[e] Estimate. NA Not available.

[1] Mostly metallurgical grade ore containing 46 to 50 percent manganese. Production in 1966 included 7,459 metric tons of battery grade ore averaging 75 percent manganese and 50 tons of chemical grade containing in excess of 75 percent manganese.

[2] Breakdowns not available for 1964 and 1965. Refinery products prior to 1964 insignificant.

Table 2.—Thailand: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum, semimanufactures	38	---	
Antimony:			
Ore and concentrate	2,448	2,646	Mostly to West Germany, United States, and United Kingdom.
Metal	204	110	Mostly to South Korea.
Copper scrap	251	552	Japan 369; Taiwan 160.
Iron and steel:			
Iron ore thousand tons	110	723	All to Japan.
Scrap	2,566	3,276	Taiwan 1,700; Japan 1,576.
Pig iron	1,100	130	Japan 30.
Semimanufactures	1,773	462	All to Laos.
Lead ore and concentrate	6,989	10,534	Netherlands 6,287; Belgium-Luxembourg 3,884.
Manganese ore	6,735	18,613	Japan 17,363; Hong Kong 1,010.
Tin:			
Ore and concentrate long tons	21,986	15,475	Malaya 8,875; Netherlands 4,021; Japan 1,081; Brazil 914; Spain 379.
Metal do	---	4,705	United States 3,141; Bermuda 1,564.
Tungsten ore and concentrate	87	209	United Kingdom 120; West Germany 43; Malaya 36.
Nonmetals:			
Cement thousand tons	102	106	South Viet-Nam 76; Laos 26; Singapore 3
Feldspar, fluorspar, and cryolite [1]	38,666	46,993	Japan 45,480; India 981.
Salt thousand tons	140	82	Malaya 53; Singapore 16; Sabah 5; South Korea 5.
Slag and ash, nonmetal-bearing	801	977	Japan 699; Hong Kong 247.
Mineral fuels; petroleum refinery products:			
Gasoline thousand 42-gallon barrels	---	242	Singapore 148; Malaya 94.
Kerosine do	---	23	All to Singapore.
Residual fuel oil do	[r] 246	752	Singapore 480; Malaya 208; Japan 137.

[r] Revised.

[1] Almost entirely fluorspar.

Sources: Statistical Office of the United Nations and Thai Government.

Table 3.—Thailand: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite	1,010	---	
Metal and alloys:			
Unwrought	3,166	1,836	United States 900; Japan 485; Canada 394.
Semimanufactures	2,373	3,279	Japan 1,424; West Germany 551; United States 360; Taiwan 221; Austria 191.
Copper and alloys:			
Ores	---	291	West Germany 249.
Scrap	45	69	United States 59.
Unwrought	338	361	Australia 229; Republic of South Africa 229; United Kingdom 123.
Semimanufactures	3,118	3,609	Japan 3,053; Australia 109; United Kingdom 101.
Iron and steel:			
Scrap	1,521	5,445	United Kingdom 3,573; Belgium-Luxembourg 832; United States 567.
Ferroalloys	1,140	1,016	Taiwan 360; Norway 298; Republic of South Africa 141.
Ingots and other primary forms	55	369	Japan 284.
Semimanufactures	353,290	423,560	Japan 276,716; Hong Kong 48,342; India 22,245; United States 14,726.
Lead:			
Oxides	141	283	West Germany 122; Australia 88.
Metal and alloys:			
Unwrought	831	1,048	Australia 566; Burma 291; Hong Kong 88.
Semimanufactures	98	153	Japan 47; Belgium-Luxembourg 41.
Manganese:			
Ores	92	---	
Oxides	1,343	1,516	Japan 1,261; United Kingdom 250.
Mercury ....76-pound flasks	87	58	Mexico 29.
Nickel, all forms	179	126	Japan 62; West Germany 41.
Silver and alloys, all forms [e] thousand troy ounces	633	245	Hong Kong 212.
Tin and alloys, all forms...long tons	5	10	Western Europe 9.
Zinc:			
Oxides and peroxides	401	585	Netherlands 176; West Germany 107; United Kingdom 69; Poland 45.
Metal and alloys:			
Unwrought	10,618	9,073	Australia 6,661; Canada 1,859; Austria 223.
Semimanufactures	1,689	1,672	Poland 1,003; Japan 220; Belgium-Luxembourg 205; West Germany 124.
Metals, not elsewhere specified:			
Metalloids, including arsenic, phosphorus, silicon, and others.	456	17	Western Europe 11.
Pyrophoric alloys	33	22	Japan 18.
Other nonferrous metals and alloys:			
Scrap	73	---	
Unwrought and semimanufactures.	68	30	Western Europe 25.
Nonmetals:			
Asbestos, crude	7,866	8,358	Republic of South Africa 2,743; Cyprus 2,540; United Kingdom 1,819; Canada 1,225.
Boron materials: boric acid and oxide	109	68	United States 67.
Cement	9,504	39,113	Taiwan 23,300; Japan 15,589.
Clays and refractories:			
Crude clay, not elsewhere specified	2,828	3,217	United States 1,065; Japan 769; India 584.
Clay construction materials:			
Refractory	1,556	3,983	Japan 1,611; Denmark 818.
Nonrefractory	8,547	8,306	Japan 4,336; West Germany 2,807.
Feldspar, fluorspar, and Nepheline syenite.	354	344	Hong Kong 208.
Fertilizer materials, manufactured:			
Nitrogenous	39,437	33,357	West Germany 14,150; Japan 11,631; Belgium-Luxembourg 3,110.
Phosphatic	3,091	2,881	Netherlands 2,034; West Germany 300.
Potassic	782	2,199	France 1,260; West Germany 590.
Mixed	65,666	50,506	Japan 21,518; West Germany 14,405; United States 4,306.
Ammonia, anhydrous	432	333	Taiwan 118; Japan 95.
Graphite	494	479	Japan 290; Hong Kong 126.
Gypsum	106	161	All from Japan.
Limestone, excluding dimension stone	890	915	Japan 864.
Magnesite	---	131	United Kingdom 115.

See footnotes at end of table.

Table 3.—Thailand: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Pumice, emery, corundum, and other natural abrasives.	558	906	Netherlands 588; United Kingdom 201.
Sodium and potassium compounds; caustic soda.	7,124	9,016	Japan 4,447; West Germany 1,508; Kenya 1,000.
Stone, sand and gravel, not elsewhere specified:			
Dimension stone:			
Crude	2,270	1,179	Hong Kong 276; Italy 226.
Worked	421	397	West Germany 153; Italy 119.
Gravel and crushed stone	888	779	West Europe 147.
Sand, excluding metal-bearing	1,031	1,660	Canada 1,361.
Grinding and polishing wheels and stones.	301	399	United Kingdom 143; Japan 126.
Sulfur:			
Elemental	9,441	5,210	United States 4,144; West Germany 344; France 250; Italy 230.
Sulfuric acid	287	---	
Talc, soapstone, and steatite	2,607	1,843	South Korea 1,202; Japan 347; India 196.
Other nonmetallic materials:			
Quartz, mica, cryolite, and chiolite	127	365	Hong Kong 318.
Other not specified	[r] 2,901	1,944	South Korea 1,202.
Mineral fuels:			
Coal	---	1,377	Australia 880; Singapore 400.
Coke	2,767	3,651	Japan 2,006; Netherlands 784; Taiwan 735.
Carbon black	1,312	2,138	United States 1,014; Australia 362; Japan 326.
Gas, natural and manufactured, including liquefied petroleum gas.	1,159	---	
Petroleum:			
Crude and partly refined thousand 42-gallon barrels	[r] 5,002	8,862	Iran 2,045; United Kingdom 1,839; United Arab Republic 1,338; Iraq 150; Saudi Arabia 140.
Refinery products:			
Gasoline do	3,509	1,477	Iran 652; Indonesia 453; Malaya 126; Japan 99.
Kerosine, including jet fuel do	1,849	3,009	Indonesia 1,794; Iran 776; Bahrein 155.
Distillate fuel oils do	4,842	[e] 2,800	Mostly from Iran, Indonesia, and Malaya.
Residual fuel oils do	2,777	1,368	Indonesia 854; Iran 278; Japan 80; United States 66.
Mineral jelly and wax	4,326	4,165	Indonesia 2,283; United States 809; Japan 550.
Bitumen	47,922	9,797	Japan 5,048; Singapore 2,993.
Other	13,299	10,161	Iran 4,603; Singapore 4,248.
Tar and other crude chemicals from coal, oil, and gas distillation.	251	1,320	Japan 1,220.

[r] Revised. [e] Estimate.

Source: Statistical Office of the United Nations.

Togo

Table 1.—Togo: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966
Phosphate rock thousand metric tons	r 192	r 515	752	r 966	1,114

r Revised.

Table 2.—Togo: Exports of selected mineral commodities

(Metric tons)

Commodity	1964	1965 [1]	Principal destinations, 1965
Metals:			
Iron and steel:			
Scrap	536	228	All to Dahomey.
Semimanufactures	58	52	Dahomey 39; France 13.
Nonmetals:			
Clay construction materials	18	---	
Fertilizer materials:			
Phosphate rock	778,240	981,767	France 237,858; Netherlands 231,034; Australia 135,444.
Manufactured	11	---	
Stone, sand, and gravel	---	59	All to Dahomey.
Nonmetallic minerals, crude unspecified.	321	103	Dahomey 55; Niger 29; Ghana 12.
Mineral fuels: Petroleum refinery products mainly lubricants.	22	24	All to Dahomey.

[1] Source: Official trade returns of Togo for phosphate rock; Statistical Office of the European communities, No. 4, 1966, pp. 85–105, for other exports.

Table 3.—Togo: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]	Principal sources, 1965
Metals: [2]			
Aluminum	63	67	France 38; Ivory Coast 28; West Germany 2.
Copper	10	37	France 34; Dahomey 2; Algeria 1.
Iron and steel:			
Scrap	39	4	All from France.
Pig iron and ferroalloys	23	2	All from France.
Semimanufactures:			
Bars, rods, and sections	2,663	3,609	France 2,284; West Germany 1,100; U.S.S.R. 199.
Plate and sheet	3,519	2,489	Japan 1,745; France 619; West Germany 114.
Rails and accessories	1,608	578	West Germany 375; France 199.
Tubes, pipes, and fittings	812	1,903	France 1,669; West Germany 100; Japan 85.
Other	79	120	West Germany 52; France 42.
Total	8,681	8,699	
Lead	20	7	France 5; Belgium-Luxembourg 1.
Tin long tons	1	1	All from France.
Zinc	1	31	All from France.
Nonferrous metals, ore and concentrate, unspecified.	4	---	
Nonmetals:			
Cement, lime, and other building materials.	31,647	48,439	Yugoslavia 11,552; West Germany 10,607; Poland 9,847.
Clay construction materials	203	539	West Germany 276; France 249; Nigeria 7.
Fertilizers, manufactured	84	245	West Germany 135; France 101; Ivory Coast 9.
Stone, sand, and gravel	38	68	Italy 44; France 11; West Germany 4.
Sulfur, and pyrite	---	5	All from France.
Nonmetallic minerals, crude unspecified.	11,418	7,080	Spain 5,960; Senegal 696; U.A.R. (Egypt) 145.
Nonmetallic mineral manufactures	131	45	France 29; West Germany 11; United Kingdom 3.
Mineral fuels:			
Coal, coke, and briquets	107	26	France 11; Dahomey 4.
Gas, natural and manufactured	146	161	Spain 53; France 33; Italy 25.
Petroleum refinery products	44,595	45,988	Venezuela 23,915; Iraq 11,176; Italy 5,099.
Tar, pitch, and other crude chemicals from coal, oil and gas distillation.	136	107	France 106.

[1] Source: Statistical Office of the European communities, No. 4, 1966, pp. 85–105.
[2] Includes unwrought and semimanufactures unless otherwise specified.

Trinidad and Tobago

Table 1.—Trinidad and Tobago: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals:					
Cement thousand tons	165	162	176	189	209
Clays thousand cubic meters	73	78	53	71	74
Diorite do	6	8	9	6	6
Gypsum	3,645	3,005	2,296	1,865	2,013
Limestone thousand cubic meters	542	526	525	435	471
Nitrogenous fertilizers [r] thousand tons	93	99	229	280	380
Porcellanite thousand cubic meters	51	39	31	55	76
Sand and gravel do	454	470	606	245	291
Sulfur	7,272	6,735	5,407	3,783	4,074
Mineral fuels:					
Asphalt, natural and similar materials:					
Natural asphalt thousand tons	165	172	195	171	158
Pitch sand thousand cubic meters	14	10	19	15	34
Natural gas, gross production million cubic feet	99,948	99,376	110,732	111,503	118,927
Natural gas liquids thousand 42-gallon barrels	194	170	200	197	188
Petroleum:					
Crude do	48,876	48,678	49,731	48,859	55,603
Refinery products:					
Aviation gasoline do	3,833	970	977	864	2,109
Motor gasoline do	12,955	18,302	17,747	17,208	17,868
Kerosine and jet fuel do	10,601	9,482	11,845	17,101	16,443
Distillate fuel oil do	17,502	20,055	19,658	19,447	19,892
Residual fuel oil do	60,457	66,271	71,287	75,442	80,352
Liquefied petroleum gases do	71	109	146	182	254
Lubricants do	2	2	406	835	1,014
Other do	951	693	840	822	1,824

[r] Revised.

Table 2.—Trinidad and Tobago: Exports and reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Scrap	13	67	Mainly to United Kingdom.
Metal and alloys, other forms	28	77	Mainly to Guyana.
Copper:			
Scrap	30	148	West Germany 76; Netherlands 71.
Metal and alloys, other forms	7	55	Mainly to Guyana.
Iron and steel:			
Scrap	3,953	3,535	Venezuela 3,416.
Pig, sponge and primary forms	6	4	Mainly to Guyana.
Semimanufactures:			
Structural shapes	68	90	Do.
Plates and sheets, all types	160	208	Mainly to Grenada.
Other	242	138	Grenada 35; Guadeloupe 28.
Lead:			
Ore	1	---	
Scrap	---	2	All to Netherlands.
Metal and alloys, other forms	60	265	Mainly to United Kingdom.
Nickel and alloys, wrought	8	2	Mainly to Venezuela.
Tin:			
Ore long tons	1	---	
Tin and tin alloys do	1	(1)	
Zinc, zinc alloys and scrap	(1)	7	Mainly to United Kingdom.
Nonferrous scrap, unclassified	4,155	3,380	West Germany 3,048.
Nonmetals:			
Cement	4	NA	
Clay and clay products:			
Clays	(1)	2	Mainly to Guyana.
Common brick	60	(1)	
Fertilizer materials:			
Natural	(1)	1	All to United States.
Manufactured:			
Nitrogenous	84,046	102,217	Guyana 22,561; Jamaica 22,228; United States 20,232.
Phosphatic	1	(1)	
Potassic	8	---	
Mixed	13	8	Dominican Republic 6.
Gravel and crushed rock	15	1,525	Mainly to Guyana.
Lime	1,012	616	Guyana 230; St. Kitts Nevis 218.
Salt	29	11	Mainly to bunkers.
Sand	155	208	Guyana 115.
Stone	2	1	Mainly to Guyana.
Other nonmetals	865	396	Mainly to bunkers.
Mineral fuels:			
Coal and coke	436	468	Mainly to Barbados.
Gas, manufactured	7,748	9,742	Guadeloupe 4,575; Surinam 1,754;
Mineral tar	4	4	All to bunkers.
Natural asphalt	80,349	61,287	United Kingdom 44,099; West Germany 6,743.
Petroleum:			
Crude thousand 42-gallon barrels	4,571	4,324	All to Canada.
Partly refined do	6,297	6,695	United States 3,739; Puerto Rico 2,296.
Refinery products:			
Aviation gasoline do	13,978	18,300	United States 7,399; Spain 2,829; France 2,063.
Motor gasoline do	8,998	7,089	United Kingdom 3,066; France 1,004.
Kerosine do	1,242	1,003	Curacao 427; United Kingdom 147.
Distillate fuel oil do	19,921	19,088	Sweden 4,069; Netherlands 3,437; United Kingdom 2,225.
Residual fuel oil	72,721	75,181	United States 38,371; Bunkers 8,898; United Kingdom 8,308.
Lubricants, including greases	52,633	97,763	Canada 30,705; United Kingdom 19,409.
Asphalt	26,590	18,304	Guadeloupe 6,599; Chile 4,559.
Tar oil	51,347	77,769	United Kingdom 33,020; Netherlands 16,201.
Other	11,571	19,133	Guyana 4,602; Grenada 1,857; British Honduras 1,126.

NA Not available.

[1] Less than ½ unit.

Source: Overseas Trade–Central Statistical Office, Government of Trinidad and Tobago. 1964 and 1965, Part A.

Table 3.—Trinidad and Tobago: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys, all forms	1,652	995	Mainly from Canada.
Copper:			
Metal and alloys, all forms	195	287	Mainly from United Kingdom.
Sulfate	15	21	All from United Kingdom.
Gold, unrefined and partly worked troy ounces	14,570	NA	
Iron and steel:			
Ore and concentrate	22	---	
Scrap	41	(1)	
Pig, sponge, and primary forms	294	173	Mainly from United Kingdom.
Semimanufactures:			
Structural shapes	14,173	12,478	Do.
Plates and sheets, all types	11,830	14,398	Do.
Pipes and tubes	32,699	35,758	Do.
Other	753	203	Do.
Lead:			
Metal and alloys, all forms	127	47	Do.
Nickel and alloys, all forms	3	8	Do.
Platinum, all forms troy ounces	37	98	United Kingdom 75; United States 22.
Silver, including partly wrought do	17,675	25,498	United Kingdom 14,511; Canada 10,957.
Tin and alloys, all forms long tons	2,639	4,192	Mainly from United Kingdom.
Zinc and alloys, all forms	42	18	Do.
Nonferrous metals, scrap and ores	10	5	Do.
Nonmetals:			
Abrasives, natural	2	8	Mainly from United Kingdom.
Asbestos, crude	3	1	All from United Kingdom.
Barite, crude and ground	52,542	27,734	Mainly from United Kingdom.
Cement	16,633	7,411	Mainly from Venezuela.
Clay and clay products:			
Clay	571	562	Mainly from United States.
Common brick	55	32	All from United Kingdom.
Refractory brick	827	1,114	Mainly from United Kingdom.
Feldspar	42	106	All from United Kingdom.
Fertilizer materials:			
Natural	1	88	Mainly from Japan.
Manufactured:			
Nitrogenous	289	19	All from Canada.
Phosphatic	320	911	Mainly from Netherlands.
Potassic	2,711	3,104	East Germany 1,621; West Germany 1,270.
Mixed	1,981	1,645	Belgium 787; West Germany 495.
Graphite	(1)	(1)	
Gravel and crushed rock	178	354	Italy 224; Antigua 91.
Lime	3	8	Mainly from United Kingdom.
Magnesite	81	84	All from Netherlands.
Mica	10	27	Mainly from Sweden.
Salt	7,284	8,482	United Kingdom 4,390; Anguilla 1,718.
Sand	47	113	Mainly from United States.
Sodium carbonate	2,395	2,366	Mainly from United Kingdom.
Sodium hydroxide	3,242	2,467	Do.
Stone:			
Dimension	486	25	Mainly from Italy.
Industrial	6,886	7,281	Jamaica 2,524; Dominican Republic 2,301.
Sulfur	16,678	17,047	Mainly from United States.
Other nonmetals	2,122	1,737	Mainly from United Kingdom.
Mineral fuels:			
Coal and coke	1,034	1,115	Mainly from United States.
Gas, manufactured	24	41	Do.
Mineral tar	36	33	Mainly from United Kingdom.
Mineral wax	---	18	All from United States.
Petroleum:			
Crude and partly refined thousand 42-gallon barrels	86,301	93,709	Venezuela 46,790; Saudi Arabia 33,967; Colombia 11,986.
Refinery products:			
Motor gasoline do	---	1,090	Mainly from Aruba.
Distillate fuel oil do	228	53	Mainly from United States.
Residual fuel oil do	2		
Lubricants, including greases	8,957	5,182	United Kingdom 2,020; United States 1,780.
Vaseline and paraffin	226	330	Mainly from United States.
Tar oils	36	40,229	Mainly from Venezuela.
Other	17,216	270	Mainly from United States.

NA Not available.

[1] Less than ½ unit.

Source: Government of Trinidad and Tobago. Central Statistical Office. Overseas Trade 1964, and 1965. Part A. Port of Spain.

Trucial Coast and Muscat and Oman

Table 1.—Trucial Coast and Muscat and Oman: Production and imports of petroleum and its products

(Thousand 42-gallon barrels)

Commodity	1962	1963	1964	1965	1966
Production (Abu Dhabi):					
Petroleum, crude	5,976	17,571	67,465	102,804	131,531
Imports:					
Petroleum refinery products:[e]					
Gasoline	84	120	160	170	200
Kerosine	32	25	20	20	20
Distillate fuel oil	76	130	190	200	220
Lubricants	4	6	8	8	8

[e] Estimate.

Tunisia

Table 1.—Tunisia: Production of mineral commodities [1]

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Iron and steel:					
Iron ore..................thousand tons..	761	865	939	1,117	1,268
Ingots and other primary forms....do....	---	---	---	---	[e] 45
Semimanufactures, mainly reinforcing bars do....	---	---	---	---	[e] 40
Lead:					
Concentrate, metal content..............	[r] 13,550	[r] 14,240	[r] 12,650	[r] 15,870	15,931
Metal..................................	15,828	[r] 12,608	[r] 12,094	14,177	13,973
Antimonial.............................	2,087	2,833	846	1,250	1,339
Mercury..................76-pound flasks..	---	---	87	174	254
Silver.........................troy ounces..	24,627	9,581	12,635	33,758	38,002
Zinc concentrate, metal content..............	4,288	4,363	3,339	[r] 4,737	5,794
Nonmetals:					
Cement.....................thousand tons..	363	361	455	454	478
Clay for brick and tile................do....	---	40	44	[r] [e] 40	[e] 40
Fertilizer materials:					
Phosphate rock..................do....	2,097	2,371	2,751	3,040	3,200
Hyperphosphate..................do....	35	86	101	110	65
Triple superphosphate.................	NA	NA	[e] 152	[e] 248	[e] 250
Fluorspar.....................................	---	---	---	5,000	---
Gypsum.....................thousand tons..	16	18	[e] 18	[e] 18	[e] 18
Lime...................................do....	129	133	175	[e] [r] 174	172
Salt (sales)...........................do....	170	308	214	356	328
Mineral fuels:					
Gas:					
Gashouse.............million cubic feet..	564	561	506	NA	NA
Natural, marketed...............do....	262	272	293	301	312
Petroleum:					
Crude..................................	---	---	---	---	700,000
Refinery products:					
Gasoline, including naphtha..........	---	---	92,408	[r] 113,401	121,959
Kerosine..............................	---	---	42,185	51,368	50,741
Distillate fuel oil...................	---	---	175,680	216,661	219,733
Residual fuel oil.....................	---	---	254,616	308,501	375,526
Liquefied petroleum gas...............	---	---	5,938	8,291	10,930
Total..........................	---	---	570,827	[r] 698,223	778,889

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, construction materials such as sand, gravel, and quarried stone also are produced but quantitative data are not available.

Table 2.—Tunisia: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals: [1]			
Aluminum	190	229	West Germany 120; Belgium-Luxembourg 58; United Kingdom 29.
Copper, Mainly scrap	466	645	France 296; Belgium-Luxembourg 223; Italy 116.
Iron and steel:			
Ore ... thousand tons	831	910	Italy 336; United Kingdom 298; Greece 179.
Ferroalloys	---	5	All to Belgium-Luxembourg.
Scrap	11,102	8,021	Yugoslavia 6,403; Italy 1,557.
Semimanufactures	[r] 52	122	Ethiopia 76; Belgium-Luxembourg 22.
Lead:			
Concentrate	2	5	Yugoslavia 4.
Metal, mainly unwrought	10,824	14,302	India 5,789; France 2,290; Spain 2,001; Czechoslovakia 1,829.
Magnesium	8	---	
Mercury ... 76-pound flasks	9	179	United States 100; Netherlands 50; India 28.
Nickel, unwrought	2	---	
Silver ... troy ounces	9,034	32	All to Libya.
Zinc:			
Concentrate	8,984	2,166	All to France.
Unwrought and scrap	8	58	All to Italy.
Metallic ores n.e.s.	3	3,434	France 1,760; United Kingdom 1,674.
Metalliferous residues n.e.s.	---	51	All to Belgium-Luxembourg.
Precious metal residues n.e.s. thousand troy ounces	262	223	All to France.
Metallic oxides and inorganic compounds n.e.s.	1	2	All to Algeria.
Nonferrous metals n.e.s.	7	---	
Nonmetals:			
Abrasives, natural	---	1	All to Italy.
Cement	130	33,130	Spain 13,210; Italy 12,190.
Clay construction materials, brick, tile, etc.	415	2,080	Libya 1,853; Algeria 225.
Feldspar and fluorspar	---	3,594	Italy 3,580.
Fertilizer materials:			
Phosphatic:			
Phosphate rock thousand tons	[r] 2,326	2,376	France 649; Italy 346; West Germany 250; India 210; Yugoslavia 206.
Superphosphate ... do	125	257	Turkey 49; Chile 43; Greece 40; China 29; France 22.
Other	[r] 391	538	All to Malagasy Republic.
Gypsum and anhydrite	726	750	All to Nigeria.
Salt ... thousand tons	195	378	United States 121; France 71; Japan 66; Brazil 40; Yugoslavia 32.
Stone, dimension	6	35	Libya 30; France 5.
Mineral fuels:			
Petroleum refinery products:			
Gasoline	5,936	---	
Distillate fuel oil	258	189	All to bunkers.
Residual fuel oil	---	3,851	Do.
Lubricants	145	196	Bunkers 187; Libya 8.
Total	6,339	4,236	
Mineral tar and crude chemicals from coal, oil, and gas distillation	---	33	All to Lebanon.

[r] Revised.

[1] Unwrought, scrap, and semimanufactures, including alloys, unless otherwise specified.

Principal Sources: Statistical Office of The United Nations, New York.

Table 3.—Tunisia: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals: [1]			
Aluminum	407	536	France 274; United Kingdom 157; United States 66.
Copper	657	535	France 468; Italy 28.
Gold, crude and semiworked thousand troy ounces	1,317	29	France 27.
Iron and steel:			
Scrap	119	106	France 60; Sweden 28.
Pig iron and ferroalloys	r 558	1,186	West Germany 540; Norway 300; France 255.
Ingots and other primary forms	267	3,499	All from Belgium-Luxembourg.
Semimanufactures:			
Angles, shapes, and sections	57,542	77,129	Belgium-Luxembourg 19,289; Italy 12,945; Greece 9,279; U.S.S.R. 9,276; Czechoslovakia 6,842.
Plate and sheet	12,675	13,350	France 4,346; West Germany 4,100; Italy 2,498; Belgium-Luxembourg 1,204.
Hoop and strip	1,140	1,249	Italy 476; France 354; Poland 214.
Rails and accessories	1,778	6,188	France 5,466; West Germany 590.
Wire	3,360	3,931	France 3,273; Belgium-Luxembourg 273.
Tubes, pipes, and fittings	9,434	17,226	France 8,718; Italy 5,012.
Castings and forgings	2,288	2,557	France 2,409; United Kingdom 52.
Total	r 88,217	121,630	
Lead	136	68	France 64.
Mercury 76-pound flasks	9	3	Italy 2.
Nickel	5	7	France 4.
Silver troy ounces	r 36,973	31,154	West Germany 12,282; Switzerland 10,192; France 1,382.
Tin long tons	84	37	France 27.
Zinc	88	205	France 203.
Nonferrous metals, n.e.s.	16	25	Mainland China 20.
Metallic oxides, mainly for paint	836	718	France 434; West Germany 185.
Nonmetals:			
Abrasive materials, grinding stones and wheels	73	33	France 19.
Asbestos, crude and partly worked	r 284	406	Rhodesia 398.
Barite	4,350	10,170	Italy 8,450; France 1,674.
Brick, non-refractory	4,143	3,912	France 2,016; Spain 598; Ccechoslovakia 550.
Cement, including asbestos-cement	22,366	13,838	France 7,890; Italy 2,380; Algeria 1,486.
Chalk	115	80	All from France.
Clay	2,838	4,388	Italy 1,988; Morocco, 1,743.
Diatomite	113	103	Italy 50; France 43.
Dolomite	235	206	Norway 120; France 80.
Fertilizer materials:			
Nitrogenous	25,008	16,513	France 8,156; Italy 5,000; West Germany 3,358.
Phosphatic	24	---	
Potassic	6,513	1,750	Spain 750; Italy 500; France 500.
Other	2,153	110	
Acids, inorganic, mainly sulfuric	376	1,320	Italy 972; France 291.
Ammonia	36	503	Italy 457.
Graphite	199	13	All from France.
Gravel and crushed stone	---	263	Italy 203; France 56.
Gypsum	549	305	France 245; United Kingdom 60.
Magnesite	NA	40	Austria 39.
Mica	18	187	Italy 80.
Potash, caustic	29	115	Italy 90.
Quartz and quartzite	290	182	France 180.
Refractory materials, brick, tile, etc.	5,496	4,302	France 1,367; Austria 752; Morocco 726; West Germany 563.
Soda, caustic	3,874	3,222	France 3,202.
Stone, dimension, mainly marble	r 4,860	2,852	Italy 2,827.
Sulfur in all forms:			
Crude	21,491	74,168	Mexico 59,953; United States 9,754; France 4,462.
Refined	2,500	900	All from France.
Pyrite, unroasted	17,161	3,787	All from Spain.
Talc and steatite	629	337	France 332.
Nonmetallic minerals, crude, n.e.s.	1,067	70	France 50; Morocco 20.
Chemical compounds, inorganic, n.e.s.	336	400	Italy 157; France 145.
Nonmetallic mineral manufactures, n.e.s.	13,378	5,967	Italy 1,989; Algeria 1,486; France 1,473.

See footnotes at end of table.

Table 3.—Tunisia: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels:			
Coal	34,250	30,535	U.S.S.R. 17,238; Poland 13,297.
Coke	6,614	21,002	Netherlands 12,426; Italy 6,376.
Petroleum:			
Crude	618,700	680,682	Iran 277,047; Libya 267,518; Kuwait 87,680.
Refinery products ʳ:			
Gasoline	18,360	1,811	Netherlands Antilles 1,195; United Kingdom 609.
Kerosine	18,885	2,736	Nerherlands Antilles 1,936.
Distillate fuel oil	29,953	1,981	Netherlands Antilles 1,950.
Residual fuel oil	64,275	---	
Lubricants	13,147	11,084	France 9,523; Italy 1,280.
Asphalt and bitumen	18,221	18,706	Italy 17,395; France 966.
Liquified petroleum gas	2,032	1,272	France 723; Algeria 432.
Other	123	228	West Germany 143; France 78.
Total	164,996	37,818	
Mineral tar and crude chemicals from coal, oil, and gas distillation	73	80	Netherlands 29; Poland 20; France 14.

ʳ Revised.

[1] Unwrought and semimanufactures, including alloys, unless otherwise specified.

Principal Sources: Statistical Office of the United Nations, New York.

Turkey

Table 1.—Turkey: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity [1]	1962	1963	1964	1965	1966
Metals:					
Aluminum: Bauxite	---	---	[r] 4,469	10,283	31,080
Antimony: [2]					
Ore and concentrates	2,991	3,030	3,294	3,534	3,081
Regulus	---	48	58	107	130
Chromite (all grades)	[r] 527,042	[r] 283,738	412,685	567,062	511,645
Copper:					
Mine production (contained metal)	31,500	29,200	34,500	33,600	36,400
Blister from other domestic ore	25,775	24,790	25,981	26,300	26,617
Ferrochromium	---	NA	4,821	7,473	7,000
Iron and steel:					
Iron ore thousand tons	813	747	976	1,530	1,620
Pig iron and blast furnace ferroalloys do	293	[r] 394	[r] 401	[r] 500	822
Steel ingots do	313	388	486	666	939
Lead:					
Content of concentrate	3,900	2,550	1,626	1,682	935
Metal	637	1,881	[r] 1,960	918	500
Manganese ore	21,248	6,304	20,290	14,220	9,693
Mercury 76-pound flasks	[r] 2,687	[r] 3,042	[r] 2,615	[r] 2,755	[e] 3,000
Zinc:					
Zinc-lead ore, hand-sorted	6,929	4,500	12,500	16,548	16,620
Zinc ore, calcined	6,399	4,000	8,950	[e] 8,500	7,150
Zinc concentrates	2,112	1,867	1,858	1,758	1,768
Zinc content of ores and concentrates	6,170	4,576	5,686	7,000	[e] 8,400
Nonmetals:					
Asbestos	643	370	1,171	1,248	1,141
Barite	1,900	981	6,050	11,980	17,000
Boron minerals	113,941	88,088	128,254	170,977	225,286
Cement thousand tons	2,323	2,698	2,940	[r] 3,328	3,865
Clays, including fire clay do	11,000	13,000	[e] 13,000	[e] 13,500	[e] 14,000
Emery	3,408	7,490	12,400	[r] 12,579	29,470
Fertilizer (chemical)	165,066	322,257	300,930	397,900	379,800
Fluorspar	581	652	1,303	1,077	1,505
Gypsum	140,000	180,000	[e] 200,000	[e] 220,000	220,000
Magnesite (crude ore)	9,740	17,917	39,068	75,587	[3] 41,643
Marble [e] cubic meters	10,000	10,000	15,000	15,000	15,000
Meerschaum kilograms	82,400	10,500	24,100	99,400	57,200
Pyrite, cupreous (gross weight)	[r] 107,080	97,082	[r] 113,093	133,159	173,602
Salt, all types thousand tons	[r] 447	[r] 398	[r] 355	493	285
Sodium sulfate	4,774	1,264	2,425	4,963	7,428
Sulfur	18,540	19,430	22,200	22,299	22,650
Mineral fuels:					
Bituminous coal (salable) thousand tons	3,899	4,156	4,448	4,401	4,903
Coke, all types do	749	1,071	[r] 1,111	1,431	1,370
Fuel briquets do	15	[e] 15	55	50	30
Lignite (salable) do	2,979	3,237	3,871	4,166	4,774
Petroleum:					
Crude thousand 42-gallon barrels	[r] 4,157	5,090	[r] 6,397	[r] 10,827	14,491
Refinery products:					
Gasoline do	4,457	4,600	5,388	5,933	4,412
Kerosine and jet fuel do	2,185	3,066	3,809	3,791	3,794
Distillate fuel oil do	4,593	6,563	8,515	8,270	9,469
Residual fuel oil do	7,426	9,400	[r] 11,277	11,461	12,850
Liqufied petroleum gas do	70	130	279	549	[e] 577
Other (includes asphalt, solvent, and miscellaneous) do	546	677	1,023	1,285	[e] 1,406
Total do	19,277	24,486	30,291	31,289	32,508

[e] Estimate. [r] Revised. NA Not available.

[1] In addition to commodities listed, Turkey produced about 3 million metric tons of limestone and 380,000 metric tons of dolomite in 1966.

[2] Ore and regulus contain 45 percent and 49 percent Sb, respectively, in 1965.

Table 2.—Turkey: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Antimony ore and concentrate	2,629	3,434	Czechoslovakia 1,900; West Germany 1,387.
Chromite (all grades)	r 344,134	424,226	United States 136,679; Czechoslovakia 52,065; France 32,332; Italy 26,647; Austria 24,691.
Copper:			
Ore (10 percent)	8,430	8,100	All to West Germany.
Blister	13,004	20,195	Belgium 11,218; United States 7,318; Spain 1,659.
Ferrochromium	5,863	5,946	Italy 2,605; United Kingdom 1,473; United States 700.
Iron and steel:			
Iron ore (concentrate)	---	---	
Iron and steel scrap	---	500	All to West Germany.
Lead ore and concentrate	2,540	1,500	All to United Kingdom.
Manganese ore	18,140	14,943	United States 6,000; Yugoslavia 3,913.
Mercury 76-pound flasks	3,230	2,318	Netherlands 1,068; United Kingdom 838.
Pyrite, cupreous	95,650	123,158	Italy 97,608; West Germany 25,550.
Silver concentrate	---	60	All to West Germany.
Zinc:			
Calcined ore	4,450	7,836	Belgium-Luxembourg 5,286; France 1,250.
Concentrate	r 2,886	---	
Zinc-lead ores	12,126	16,500	NA.
Nonmetals:			
Abrasives (natural)	9,217	16,655	United States 6,714; Netherlands 5,725.
Borates	118,408	152,564	Italy 60,454; France 31,470; United Kingdom 15,319; United States 8,608.
Cement	2,460	---	
Magnesite:			
Crude	19,785	15,669	Austria 12,864; East Germany 2,805.
Calcined		18,228	Austria 15,000; Belgium-Luxembourg 3,228.
Stone and gravel:			
Marble	5,344	6,353	Switzerland 1,663; Italy 1,302.
Other stone and gravel	r 170	306	All to Syria.
Meerschaum	58	46	Austria 24; United States 12.
Salt	128,938	88,519	Japan 79,319; Bulgaria 9,200.
Other nonmetals	r 301	70	NA.
Mineral fuels:			
Coal (bituminous)	16,464	9,195	All to Greece.
Coke	---	929	All to Syria.
Lignite	38	---	
Petroleum refinery products:			
Gasoline	r 47,004	17,897	United Kingdom 11,775; Netherlands 6,122.
Distillate fuel oil	r 15,122	---	
Residual fuel oil	690,285	497,869	United Kingdom 312,836; Netherlands 88,500.

r Revised. NA Not available.

Table 3.—Turkey: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Ingots	1,579	5,640	United States 1,846; Canada 1,567; France 1,436.
Semimanufactures	1,670	1,577	Israel 326; Austria 213; Hungary 196.
Copper and alloys, all forms	395	259	Italy 81; West Germany 54.
Iron and steel:			
Scrap	25,791	29,029	All from United States.
Pig iron, including cast iron	[r]25,527	25,824	U.S.S.R. 16,684; Bulgaria 5,371; West Germany 2,680.
Ferromanganese and other ferroalloys.	6,305	8,495	Norway 4,079; United States 2,300; U.S.S.R. 1,041.
Ingots and other primary forms[1]	[r]96,196	116,230	U.S.S.R. 32,551; United States 25,577; Hungary 25,132; Bulgaria 14,966.
Semimanufactures	[r]208,669	206,580	U.S.S.R. 77,827; United States 67,066; Hungary 47,056.
Lead and alloys, all forms	1,515	94	Belgium 23; United States 13; Denmark 13.
Nickel and alloys, all forms	108	80	West Germany 25; Italy 22.
Tin and alloys, all forms..long tons	867	923	United States 765; United Kingdom 119.
Zinc and alloys, all forms	5,046	6,934	Belgium-Luxembourg 2,846; U.S.S.R. 1,200; West Germany 1,078.
Metallic ores, slags and ashes	[r]763	435	All from United Kingdom.
Other nonferrous metals and semimanufactures.	9	28	All from West Germany.
Nonmetals:			
Asbestos	[r]2,455	2,654	United Kingdom 1,355; U.S.S.R. 1,086.
Barite	2,455	200	NA.
Cement	91,533	47,647	U.S.SR. 45,638; Italy 1,184.
Clays, all types	2,357	2,651	Greece 783; Italy 621; United States 34.
Feldspar and fluorspar	1,939	2,651	Mexico 1,489; Italy 997.
Graphite	139	140	West Germany 53; United Kingdom 44.
Infusorial earths	65	76	United States 33; West Germany 27.
Magnesite	3	7	All from Austria.
Mica	53	33	United Kingdom 15; Norway 15.
Phosphate rock	92,517	100,529	Israel 73,795; Jordan 22,280.
Quartz and quartzite	38	84	Netherlands 52.
Sulfur	210	100	United States 67; West Germany 30.
Talc	96	220	Italy 214.
Mineral fuels:			
Coal	300	132	All from West Germany.
Coal tars	4,083	1,045	All from Netherlands.
Coke	[r]4,083	4,200	France 3,200; U.S.S.R. 1,000.
Petroleum:			
Crude..........thousand tons	[r]3,430	3,051	Saudi Arabia 1,257; Iraq 1,063.
Refinery products:			
Gasoline	2,571	4,673	United States 3,671; United Kingdom 697.
Kerosine	36,943	33,763	Rumania 19,512; United States 10,416.
Lubricants	60,804	52,515	United States 49,945; France 593.
Other	1,750	2,652	West Germany 1,971; Rumania 241.
Total petroleum products	102,068	93,603	

[r] Revised. NA Not available.

[1] Includes coil for rerolling and alloying steels.

Uganda

Table 1.—Uganda: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Beryl	1,012	380	394	192	248
Bismuth, metal content ... kilograms	50	30	---	---	---
Columbium-tantalum concentrate ... do	13,087	9,000	5,832	8,130	11,180
Copper, blister	15,579	16,216	18,260	17,141	16,098
Gold ... troy ounces	291	48	24	36	3
Iron and steel: Steel, semimanufactures thousand tons	[e] 1	[e] 10	[e] 10	13	22
Lithium mineral, amblygonite	20	48	20	20	[1] 71
Silver, exports ... troy ounces	38	9	---	---	---
Tin, content of concentrate ... long tons	174	[r] 165	[r] 217	[r] 178	122
Tungsten concentrate, 60 percent WO_3 basis	12	2	---	49	130
Nonmetals:					
Cement ... thousand tons	56	55	73	131	121
Lime ... do	16	11	12	20	4
Mica, splittings ... kilograms	83	---	---	---	---
Phosphate, apatite	1,123	7,071	9,544	16,382	15,798
Salt ... thousand tons	3	3	3	3	2

[e] Estimate. [r] Revised.

[1] Export.

Table 2.—Uganda: Exports of mineral commodities to countries outside the East Africa Common Services Organization [1]

(Metric tons unless otherwise specified)

Commodity	1964	1965 [2]
Metals:		
Beryl	473	274
Columbium-Tantalum concentrate	6	15
Copper, blister	18,506	17,560
Gold ... troy ounces	---	51
Iron and steel, scrap and semimanufactures	83	31
Lithium mineral, amblygonite	20	---
Tin, concentrate ... long tons	325	294
Tungsten, concentrate	[r] 19	65
Nonferrous metals, scrap	---	10
Nonmetals:		
Asbestos	121	NA
Cement	3,087	4,306
Lime	2	NA
Phosphate, fertilizer	[r] 371	---
Salt	554	449

[r] Revised. NA Not available.

[1] Does not include reexports.

[2] Data on destinations by country are not available.

Table 3.—Uganda: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]
Metals:		
Aluminum, semimanufactures	166	410
Copper	101	NA
Gold bullion ... troy ounces	2,599	1,172
Iron and steel:		
Pig iron and ferroalloys	88	NA
Semimanufactures	15,647	23,333
Lead, all forms	57	NA
Nickel	2	NA
Tin ... long tons	35	NA
Zinc	12	NA
Nonmetals:		
Asbestos, crude	748	NA
Cement	745	202
Feldspar, fluorspar, cryolite and chiolite	469	NA
Fertilizers:		
Nitrogenous	5,102	11,244
Phosphatic	1,517	
Potassic	1,718	
Other, not further described	3,192	
Lime	3	NA
Salt	34,019	35,710
Sulfur	1,563	NA
Mineral fuels:		
Solid:		
Coal	115	208
Coke	437	
Petroleum refinery products:		
Gasoline ... thousand 42-gallon barrels	343	33
Kerosine ... do	173	7
Distillate fuel oil ... do	161	13
Residual fuel oil ... do	44	4
Lubricating and other oils ... do	32	32
Grease, Jelly and wax	[r] 524	304
Asphalt and bitumen	647	NA
Liquefied petroleum gas	86	NA
Other refinery products, not further described	142	NA

[r] Revised. NA Not Available.

[1] Data on sources by country are not available.

U.S.S.R.

Table 1.—U.S.S.R.: Estimated [1] production of mineral commodities

(Thousand metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Ores and concentrates:					
Bauxite, 26 to 52 percent alumina	4,200	4,300	4,300	4,700	4,800
Nepheline concentrates 25 to 30 percent alumina.	375	400	500	900	950
Alunites ores, 16 to 18 percent alumina	---	30	40	50	50
Metal [3]	[r]900	960	1,000	1,280	1,300
Antimony, content of ore ... metric tons	6,000	6,100	6,100	6,200	6,200
Arsenic, white (As_2O_3) ... do	6,500	6,500	6,500	6,800	6,800
Beryl, cobbed, only 10 to 12 percent BeO ... do	900	1,000	1,000	1,000	1,100
Bismuth ... do	30	30	30	35	35
Cadmium ... do	[r]1,600	[r]1,700	1,800	1,900	1,900
Chromite ore, 30 to 55 percent Cr_2O_3	1,150	1,230	1,300	1,420	1,450
Cobalt ... metric tons	1,100	1,200	1,200	1,300	1,300
Copper:					
Ores, gross weight, 0.5 to 2 percent Cu	54,000	59,000	60,000	64,000	70,000
Smelter [4]	650	700	700	750	800
Iron and steel:					
Iron ore, 55 to 63 percent Fe [5]	128,111	[r]137,502	145,856	153,432	160,000
Iron ore sinter [6]	83,360	93,531	103,613	NA	NA
Pig iron and ferroalloys:					
Pig iron for steelmaking [6]	45,579	48,366	51,594	NA	NA
Foundry pig iron [6]	8,071	8,617	8,977	NA	NA
Spiegeleisen [6]	90	91	81	NA	NA
Ferromanganese [6]	812	821	916	NA	NA
Other blast furnace ferroalloys [6]	713	796	809	NA	NA
Total [6]	55,265	[r]58,691	[r]62,377	66,184	70,296
Steel: [6]					
Ingots	70,880	74,411	78,921	NA	NA
Steel for casting	5,426	5,820	6,113	NA	NA
Total	76,306	[r]80,231	[r]85,034	91,021	96,900
Semimanufactures:					
Heavy sections	15,155	15,549	16,747	NA	NA
Light sections	5,305	5,464	5,730	NA	NA
Wire rods	4,072	4,369	4,635	NA	NA
Pipe stock	3,176	3,458	3,777	NA	NA
Tubes from ingots	1,105	1,083	1,121	NA	NA
Plates and sheets:					
More than 4.75 millimeters thick	8,224	8,850	9,464	NA	NA
Other	6,721	7,460	7,944	NA	NA
Total plates and sheets	14,945	16,310	17,408	NA	NA
Strip	3,633	4,128	4,507	NA	NA
Railway track material	3,404	3,278	3,228	NA	NA
Wheels, tires and axles	833	825	808	NA	NA
Unspecified, for sale	639	535	407	NA	NA
Other	120	122	123	NA	NA
Total semimanufactures	52,387	55,121	58,491	61,600	NA
Selected end products: [7]					
Welded pipes and tubes	3,341	3,770	4,022	NA	NA
Seamless pipes and tubes	3,537	3,751	4,102	NA	NA
Total	6,878	7,521	8,124	9,014	9,900
Cold-rolled sheets	1,815	2,155	3,031	NA	NA
Tinplate	351	368	406	NA	NA
Galvanised sheets	260	267	303	NA	NA
Electrical sheets	661	742	790	NA	NA
Wire, plain	1,584	1,759	1,936	NA	NA

See footnotes at end of table.

Table 1.—U.S.S.R.: Estimated [1] production of mineral commodities—Continued

(Thousand metric tons unless otherwise specified)

Commodity [2]	1962	1963	1964	1965	1966
Metals—Continued					
Lead, smelter	350	350	360	370	370
Magnesium	32	32	32	33	33
Manganese ore [5]	6,402	[r] 6,663	[r] 7,096	7,576	[e] 8,000
Mercury .... 76-pound flasks	35,000	35,000	35,000	40,000	40,000
Molybdenum .... metric tons	5,700	5,700	6,000	6,200	6,500
Nickel, smelter [4]	85	85	85	90	95
Platinum .... thousand troy ounces	800	800	[r] 1,500	1,700	1,700
Silver .... do	27,000	27,000	27,000	27,000	27,000
Tin, smelter [4] .... long tons	17,000	20,000	20,000	21,000	22,000
Titanium	4	5	5	6	6
Tungsten concentrates, 60 percent WO_3 basis metric tons	10,500	11,000	11,000	11,500	11,500
Zinc:					
Recoverable metal content of domestic ores	410	410	410	412	420
Smelter [4]	465	465	460	465	470
Nonmetals:					
Asbestos	640	685	[5] 735	785	840
Barite	180	200	200	220	230
Boron minerals and compounds, B_2O_3 content	63	63	63	63	63
Cement [5]	57,328	61,018	64,934	72,388	79,992
China clay (kaolin)	1,400	1,500	1,500	1,500	1,500
Diamond .... thousand carats	2,500	3,000	3,000	3,500	3,500
Diatomite	300	310	310	315	325
Feldspar	200	200	200	200	200
Fertilizer materials:					
Crude:					
Nitrogen compounds, N content equivalent.	1,700	2,000	2,100	2,500	3,000
Phosphate:					
Apatite (ore) [r]	10,215	11,310	15,940	18,800	20,000
Sedimentary rock (ore)	8,000	8,500	8,800	9,000	9,200
Total	18,215	19,810	24,740	27,800	29,200
Potash, K_2O equivalent	1,900	2,050	[5] 2,200	2,350	2,550
Manufactured:					
Nitrogenous, bulk [5]	6,905	8,575	10,222	13,217	[e] 15,700
Phosphatic, bulk [5]	5,161	7,857	10,677	12,240	[e] 13,400
Potassic, bulk [5]	3,198	3,365	4,553	5,691	[e] 6,600
Others [5]	1,994	[r] 138	110	105	[e] 100
Total [5]	17,258	19,935	25,562	31,253	[e] 35,800
Fluorspar	240	270	300	350	350
Graphite	55	55	55	55	56
Gypsum [5]	4,376	4,239	4,203	4,344	[e] 4,400
Lime, dead burned [5]	[r] 16,546	16,013	16,198	17,686	[e] 18,000
Magnesite	2,500	2,700	2,800	2,900	2,900
Mica	30	30	30	30	32
Pyrite, gross weight	3,000	3,200	3,200	3,300	3,300
Refractories:					
Shamotte [5]	5,427	5,543	5,695	[r] 5,790	[e] 5,900
Dinas (quartzite-lime) [5]	685	616	629	[r] 637	[e] 650
Magnesite and chrome magnesite [5]	1,195	1,250	1,313	[r] 1,372	[e] 1,500
Magnesite powder [5]	1,172	1,218	1,220	[r] 1,265	[e] 1,300
Total	8,479	8,627	8,857	[r] 9,064	[e] 9,350
Salt [5]	[r] 8,549	[r] 9,560	10,100	9,500	[e] 9,500
Sulfur (excluding sulfur content of pyrite)	1,320	1,350	1,350	1,480	1,480
Talc	310	350	350	360	360
Mineral fuels:					
Coal:					
Brown [5]	130,976	136,590	145,127	149,850	[e] 152,000
Hard:					
Coking [5]	117,462	127,063	133,617	138,959	143,000
Anthracite [5]	76,364	76,683	78,840	80,467	[e] 80,500
Undifferentiated	192,606	191,383	196,413	208,455	[e] 208,000
Subtotal [5]	386,432	395,129	408,870	427,881	[e] 431,500
Total [5]	517,408	531,719	553,997	[e] 577,731	585,000
Coke, oven and beehive [5]	60,929	63,873	66,282	67,462	[e] 68,000
Crude oil [5]	186,244	206,070	223,600	242,900	265,000
Fuel briquets	8,500	8,500	8,700	8,700	8,800

See footnotes at end of table.

Table 1.—U.S.S.R.: Estimated [1] Production of mineral commodities—Continued

(Thousand metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels—Continued					
Oil shale [5]	16,370	18,308	20,233	21,259	[e] 22,500
Peat, agricultural use	100,000	100,000	110,000	130,000	130,000
Peat, fuel use [5]	34,700	58,500	59,500	46,000	[e] 45,000
Natural gas [5] billion cubic feet	2,806	3,415	4,052	4,764	5,393
Electric power [5] billion kilowatt hours	369	412	459	507	545

[e] Estimate. [r] Revised.

NA Not available.

[1] Estimated except where noted.

[2] In addition to commodities listed, the U.S.S.R. is known to produce gold, but no estimate of output is included.

[3] Excludes production from scrap.

[4] Includes production from scrap.

[5] Reported in Soviet sources except for estimates in 1966 column.

[6] Data for 1961–64, United Nations Quarterly Bulletin of Steel Statistics for Europe. V. XVI, No. 1, 1965, p. A–23.

[7] Items listed under this heading are produced from semimanufactures listed above and possibly also from imported material. Therefore, these data are not additive to the total of semimanufactures listed.

[8] The average ash content of the coal shipped from the mines was 19.4 percent and average calorific value—a little more than 5,000 kilocalories per kilogram.

Table 2.—U.S.S.R.: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965	Value (thousand rubles)	
				1964	1965
Metals:					
Aluminum:					
Ingots and equivalent primary forms.	175,200	229,000	East Germany 87,300; United Kingdom 32,300; Czechoslovakia 20,600.	78,798	99,855
Semimanufactures, including those of duraluminum.	34,100	42,100	East Germany 9,500; Czechoslovakia 6,613; Cuba 4,000; United Arab Republic (Egypt) 3,500; Bulgaria 2,154.	23,255	27,343
Antimony, primary forms	4,300	2,700	Bulgaria 661; Netherlands 500; West Germany 400; Japan 100.	3,483	2,072
Cadmium, primary forms	700	900	Netherlands 400; East Germany 202; United Kingdom 121; Czechoslovakia 115.	3,191	3,351
Chromite, (48 to 56 percent Cr_2O_3)	663,000	748,000	United States 223,000; Japan 123,000; France 88,000; West Germany 76,000; Sweden 67,000; Poland 58,000; Italy 45,000.	13,314	15,511
Cobalt, primary forms	200	200	NA	844	795
Copper:					
Ingots and equivalent primary forms:					
Unalloyed	89,500	93,100	East Germany 42,400; Czechoslovakia 26,900; Poland 9,200 Hungary 7,200 Rumania 5,900.	51,223	54,165
Alloyed (bronze)	2,400	3,300	East Germany 2,000	1,063	1,922
Semimanufactures:					
Unalloyed	5,000	5,500	Cuba 3,100; Rumania 824; Czechoslovakia 400.	4,613	5,383
Alloyed (copper-zinc)	4,700	5,200	Rumania 1,777; Cuba 900; Bulgaria 694	4,226	4,798
Illmenite	27,500	8,200	All to Italy	263	64

See footnote at end of table.

Table 2.—U.S.S.R.: Exports of selected metals and minerals—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965	Value (thousand rubles)	
				1964	1965
Metals—Continued					
Iron and steel:					
Iron ore ... thousand tons	22,600	24,138	Czechoslovakia 7,966; Poland 7,353; East Germany 2,610; Hungary 2,267; Rumania 1,714.	229,961	224,293
Pig iron ... do	3,198	3,659	Japan 772; East Germany 743; Poland 396; Rumania 358; Bulgaria 159.	146,786	161,255
Ferrous scrap ... do	472	565	East Germany 153; Finland 124; Japan 95.	15,739	20,291
Ferroalloys	1,800	1,900	Rumania 44,600; United Kingdom 27,100; Hungary 22,700; Czechoslovakia 20,900; Sweden 9,100; Belgium 8,500; Bulgaria 8,300; Italy 8,300.	3,586	3,679
Ferrosilicon	66,700	84,000		5,517	7,060
Ferromanganese	59,600	67,300		10,603	10,135
Ferrochromium	15,400	24,800		4,254	6,197
Ferromolybdenum	5,400	4,700		13,932	19,818
Not specified	[r]23,100	22,600		[r]8,192	7,581
Total	172,000	205,300		46,084	54,470
Semimanufactures:					
Rolled products, excluding pipes ... thousand tons	4,181	4,547	East Germany 1,733; Rumania 797; Czechoslovakia 540; Bulgaria 315.	568,646	566,229
Steel pipes ... do	239	266	East Germany 117; Bulgaria 40; mainland China 26; Rumania 16.	50,329	51,387
Lead, ingots and equivalent primary forms.	96,100	102,500	East Germany 38,100; Czechoslovakia 14,600; United Kingdom 10,200; Hungary 8,400; Finland 8,400; Poland 7,400.	23,255	25,007
Magnesium, primary forms	2,800	3,500	East Germany 2,555	1,966	2,281
Manganese:					
Metallurgical grade ore	979,000	1,020,000	Poland 249,000; East Germany 171,000; Czechoslovakia 141,000; United Kingdom 122,000; France 90,000.	28,351	22,404
Battery and chemical ore	13,100	15,800	Netherlands 5,900; Poland 2,200; East Germany 2,100; Czechoslovakia 1,500.	918	891
Mercury ... 76-pound flasks	2,900	697	NA	462	136
Nickel	5,100	12,799	United Kingdom 8,300; East Germany 1,600; mainland China 1,499.	7,987	19,600
Tin, primary forms ... long tons	[r]10	7	NA	24	13
Tungsten, concentrate	3,800	3,320	United Kingdom 1,400; Austria 1,100; West Germany 700; Sweden 120.	3,050	4,520
Zinc:					
Ingots and equivalent primary forms.	149,800	132,700	United Kingdom 30,700; East Germany 29,800; Netherlands 25,800; Czechoslovakia 12,500; India 8,700; Sweden 7,300.	40,711	34,421
Nonmetals:					
Abrasives:					
Hard alloys	156	56	Bulgaria 23; Hungary 15; Rumania 10; Poland 4.	2,928	869
Asbestos	212,200	248,400	West Germany 42,800; France 38,100; East Germany 28,300; Poland 16,600; Japan 13,600; Bulgaria 12,700; Belgium 11,300; Austria 9,700.	28,608	28,749
Cement ... thousand tons	1,382	2,016	Spain 339; Ghana 283; Poland 134; Bulgaria 101; Libya 98; Indonesia 85.	10,470	---
Cryolite	3,500	3,300	Poland 1,500; Hungary 1,000	676	603
Fertilizers and fertilizer raw material minerals:					
Apatite ore	64,900	81,600	Czechoslovakia 68,200	511	565
Apatite concentrates, 38.5 to 39.4 percent P_2O_5. thousand tons	2,989	3,493	East Germany 784; Poland 530; Czechoslovakia 444; Hungary 327; West Germany 284; Finland 243.	47,773	56,495
Superphosphate, not less than 18.7 percent P_2O_5.	226,900	195,200	Hungary 96,500; Cuba 51,600; Bulgaria 28,700.	4,851	4,417
Ammonium nitrate	42,500	8,300	Cuba 3,900; Czechoslovakia 3,131; Finland 1,100.	2,342	548
Ammonium sulfate	223,800	330,400	Cuba 226,900; North Viet-Nam 39,100	5,547	12,536

See footnote at end of table.

Table 2.—U.S.S.R.: Exports of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965	Value (thousand rubles)	
				1964	1965
Nonmetals—Continued					
Fertilizers and fertilizer raw material minerals—Continued					
Potassium salts, KCl, 58 to 62 percent K_2O equivalent.	754,200	825,500	Japan 247,100; Yugoslavia 135,100; Finland 94,800; Hungary 75,800; Cuba 59,200; United Kingdom 56,600; Belgium 47,000; Netherlands 22,800.	15,437	17,510
Fluorspar	---	---		---	---
Graphite	7,500	6,100	East Germany 1,800; Hungary 1,300; Bulgaria 1,100; Poland 1,100.	666	553
Gypsum	18,000	18,100	All to Finland	85	86
Kaolin	100	1,100	NA	2	31
Pyrite thousand tons	942	1,232	Italy 696; East Germany 240	6,146	6,909
Refractories:					
Clay, fire resistant	16,200	16,100	Poland 12,100; Hungary 3,800	201	199
Magnesite powder	10,900	13,200	Rumania 9,900; Japan 3,300	499	609
Other	72,600	74,200	Bulgaria 26,900; Rumania 13,700; India 7,800; Poland 4,800; Cuba 1,600.	6,049	6,261
Salt	108,900	164,500	Czechoslovakia 79,300; Hungary 49,800; Finland 26,900.	595	968
Sulfur	147,100	154,200	Cuba 55,500; Hungary 42,100; Czechoslovakia 25,000; Finland 4,800.	4,055	4,829
Sulfuric acid	96,500	63,500	Hungary 33,900; Finland 18,100; Czechoslovakia 5,300; Yugoslavia 800.	2,772	1,763
Talc	16,100	15,800	All to Japan	294	300
Mineral fuels:					
Coal:					
Anthracite thousand tons	4,086	3,324	France 1,570; Italy 380; Czechoslovakia 321; Belgium 236; Finland 172.	62,913	51,818
Bituminous do	19,230	18,831	East Germany 5,835; Bulgaria 2,504; Czechoslovakia 2,435; Japan 1,202; Hungary 1,003; Austria 806; Finland 493.	224,508	213,015
Other do	312	268	Czechoslovakia 159	3,990	3,235
Total do	23,628	22,423		291,411	268,068
Coke do	3,999	3,752	East Germany 1,505; Hungary 576; Rumania 541; Finland 517; Denmark 284; Bulgaria 103.	85,194	77,840
Crude do	36,691	43,432	Italy 6,588; Czechoslovakia 5,964; East Germany 4,923; Cuba 3,513; Poland 3,213; West Germany 2,583; Brazil 2,354; Japan 2,317; Bulgaria 2,146; Hungary 2,046; Finland 1,938; France 779; United Arab Republic (Egypt) 688; Yugoslavia 592; Austria 470; Greece 422; Morocco 417.	475,636	550,841
Refinery products:					
Gasoline thousand tons	2,747	2,353	Poland 511; North Korea 173; Hungary 153; Bulgaria 141; Czechoslovakia 138; Cuba 132.	87,506	65,264
Kerosine do	889	1,165	India 646; Czechoslovakia 237; Ceylon 163; Poland 30.	24,351	25,976
Gas, diesel oil do	6,851	7,361	Finland 1,581; Japan 645; India 531; Poland 451; France 411; W. Germ. 381.	142,775	137,987
Residual fuel oil do	9,056	9,709	Sweden 2,525; Finland 947; Japan 873; Cuba 811; Bulgaria 794; Italy 701; Greece 493; Poland 455.	86,700	89,298
Lubricants do	295	276	Cuba 60; Bulgaria 46; North Korea 36; Hungary 28.	25,098	23,469
Bitumen do	23	23	Bulgaria 20	693	677
Paraffin do	33	28	Poland 8; Czechoslovakia 3; Bulgaria 2; Cuba 2; Finland 1.	4,592	3,690
Unidentified do	36	72	All to Communist countries	1,471	1,940
Total do	19,930	20,987	Sweden 2,804; Finland 2,546; Japan 1,564; Poland 1,489; India 1,421; Bulgaria 1,304; Cuba 1,214.	373,186	348,301
Carbon black	12,728	18,081	East Germany 6,400; Hungary 2,783; Czechoslovakia 1,700; Bulgaria 1,476.	2,040	2,855
Natural gas million cubic meters	295	391	All to Poland	2,032	2,693
Electric power million kilowatt hours	1,329	1,516	Hungary 1,045; Czechoslovakia 189; Poland 160.	14,216	15,397

r Revised. NA Not available.

Table 3.—U.S.S.R.: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965	Value (thousand rubles)	
				1964	1965
Metals:					
Aluminum:					
Bauxite	449,300	604,800	Greece 481,000; Yugoslavia 123,800	2,016	3,076
Alumina	15,100	---		1,467	---
Semimanufactures, including those of duraluminum.	5,600	7,300	NA	3,454	5,981
Antimony	---	---		---	---
Cadmium, primary forms	155	237	Poland 200	509	860
Copper:					
Ingots and equivalent primary forms:					
Unalloyed	9,500	700	NA	6,668	407
Semimanufactures	8,600	5,800	All from Yugoslavia	7,384	7,303
Iron and steel:					
Iron ore thousand tons	231	12	All from Algeria	1,039	52
Pig iron do	195	148	Finland 100.2; North Korea 47.7	12,409	6,647
Ferroalloys do	3	6	North Korea 1.5; Undisclosed 4.5	1,467	1,321
Rolled products, excluding pipes do	732	792	Rumania 231; Czechoslovakia 167; Poland 116; Austria 108; North Korea 66.	122,246	118,289
Steel pipes do	514	767	Rumania 188; Czechoslovakia 157; Japan 142; West Germany 89; Sweden 48.	103,075	139,287
Lead:					
Ore	22,000	30,600	All from Iran	1,764	3,256
Concentrate	---	---		---	---
Ingots and equivalent primary forms.	49,900	47,900	North Korea 16,600; Bulgaria 13,400; Yugoslavia 13,400.	13,130	13,459
Magnesium	500	---		255	---
Mercury 76-pound flasks	5,800	5,800	Yugoslavia 2,900; mainland China 2,900	[r] 1,216	1,583
Nickel	---	---		---	---
Tin, primary forms long tons	5,500	5,800	United Kingdom 2,200; Malaysia 1,600; Indonesia 1,400; mainland China 500.	16,082	18,930
Tungsten, concentrate	6,000	6,000	All from mainland China	10,530	10,467
Zinc:					
Ore	10,200	12,100	All from Iran	658	1,074
Concentrate	32,200	15,900	All from North Korea	1,763	811
Dust	1,400	1,300	All from Poland	305	293
Ingots and equivalent primary forms.	71,700	58,800	Poland 48,400; North Korea 8,000	15,297	12,811
Rolled products	3,900	4,000	All from Poland	1,129	1,271
Nonmetals:					
Barite	97,600	105,200	North Korea 45,700; Bulgaria 28,600; Yugoslavia 22,900.	2,205	2,545
Cement thousand tons	333	67	All from North Korea	3,277	842
Fluorspar	132,500	116,300	Mongolia 56,200; mainland China 49,600; East Germany 7,700.	3,823	2,843
Mica	240	376	All from India	1,348	1,813
Refractories, magnesite powder	80,100	137,900	All from North Korea	4,055	6,982
Sulfur	145,800	25,200	Mainland China 7,000; Undisclosed 18,200.	3,847	767
Talc	72,600	67,500	Mainland China 37,300; North Korea 21,900.	1,657	1,535
Mineral fuels:					
Coal, bituminous thousand tons	5,100	6,800	Poland 6,518; mainland China 201	71,445	96,166
Coke do	661	662	All from Poland	15,777	14,574
Petroleum:					
Crude do	---	---		---	---
Refinery products:					
Gasoline do	1,386	1,221	Rumania 942; East Germany 223	46,554	37,019
Kerosine do	151	169	Rumania 167	4,655	5,112
Gas/diesel oil do	230	227	Rumania 201	6,560	5,985
Residual fuel oil do	52	50	All from Rumania	792	749
Lubricants do	154	149	Rumania 134; Hungary 13	10,438	10,778
Bitumen do	73	66	All from Rumania	1,696	1,531
Paraffin do	18	12	All from Rumania	2,577	1,742
Unidentified do	18	10		4,382	5,023
Total do	2,082	1,904	Rumania 1,574; East Germany 252	77,654	67,939
Carbon black	12,800	9,900	United Kingdom 3,200; Rumania 3,200; East Germany 1,000; Poland 500.	2,088	1,812

[r] Revised. NA Not available.

Source: Vneshnyaya torgovlya SSSR za 1965 god (Foreign Trade of the U.S.S.R. for 1965 Year), Moscow, 1966, 324 pages.

United Arab Republic (Egypt)

Table 1.—United Arab Republic (Egypt): Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum, semimanufactures	3,636	2,106	3,831	5,155	[e] 5,000
Copper, semimanufactures	6,460	6,513	8,019	7,057	[e] 7,000
Iron and steel:					
Iron ore thousand tons	461	489	447	[r] 507	442
Pig iron do	176	205	192	173	[e] 190
Ingots and castings do	190	197	176	179	[e] 180
Iron oxide, mainly for pigment	208	482	325	370	1,030
Lead:					
Content of ore [e]	540	500	---	---	15
Semimanufactures	3,528	3,653	3,634	3,577	[e] 3,500
Manganese ore, mainly less than 35 percent Mn thousand tons	186	172	328	182	186
Titanium ore and concentrate, mainly ilmenite	44,643	541	21	---	551
Zirconium concentrate	171	40	41	---	389
Metallic ore and concentrate, not elsewhere specified	2,528	1,855	---	---	---
Nonmetals:					
Asbestos	550	174	1,578	2,926	1,866
Barite	1,230	4,123	4,551	15,353	[e] 15,000
Cement thousand tons	[r] 2,232	[r] 2,509	[r] 2,521	[r] 2,422	2,556
Clay and clay products:					
Fire clay for ceramic use thousand cubic meters	32	464	436	447	[e] 440
Kaolinite	14,601	21,009	62,796	47,775	49,987
Refractory clay	114	3,281	[1] 39,989	[1] 72,915	[1] 63,604
Brick, tile, pipe, etc., for construction use [e] thousand tons	2,300	2,900	3,200	3,500	[e] 3,500
Brick, refractory do	43	63	---	73	[e] 70
Diatomite	50	831	NA	NA	NA
Feldspar	---	---	4,728	[e] 4,000	3,499
Fertilizer materials:					
Crude:					
Nitrogenous (sodium nitrate)	6,062	4,000	4,652	4,218	[e] 4,000
Phosphate rock thousand tons	602	612	613	594	661
Manufactured:					
Nitrogenous do	616	620	783	714	[e] 700
Phosphatic, including Thomas slag do	196	189	244	287	[e] 280
Gypsum do	468	454	337	229	459
Limestone thousand cubic meters	3,069	3,185	2,692	3,051	[e] 3,400
Mica and vermiculite	284	30	416	580	[e] 500
Pumice cubic meters	2,065	8,722	21,572	25,657	[e] 25,000
Quarry stone, mainly for construction uses:					
Basalt thousand cubic meters	283	187	411	253	[e] 250
Granite do	219	229	241	313	[e] 300
Sand and gravel do	2,940	3,078	3,584	4,839	[e] 4,500
Sandstone do	156	155	157	221	[e] 200
Other do	240	284	289	307	[e] 300
Salt thousand tons	337	392	675	494	627
Sodium compounds, not elsewhere specified: Caustic soda	17,579	17,556	16,298	18,861	[e] 18,000
Sulfur	[2] 8,072	[2] 2,893	[3] 2,466	[3] 3,707	[3] 11,674
Sulfuric acid thousand tons	94	113	170	194	[e] 190
Talc	6,126	7,131	16,821	39,628	[e] 40,000
Mineral fuels:					
Coal thousand tons	---	---	---	20	[e] 20
Coke, oven and beehive do	[e] 35	[e] 35	[e] 35	[r] 241	[e] 250
Coke, low temperature and gashouse [e] do	35	35	35	40	50
Petroleum:					
Crude thousand 42-gallon barrels	32,321	38,759	43,915	45,556	44,070
Gas, manufactured thousand tons	31	37	46	44	49
Refinery products:					
Gasoline do	553	714	757	855	849
Kerosine do	544	816	984	853	923

See footnotes at end of table.

Table 1.—United Arab Republic (Egypt): Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Mineral fuels—Continued					
Petroleum—Continued					
Refinery Product—Continued					
Distillate fuel oil do	895	1,038	1,199	1,232	[e] 1,476
Residual fuel oil do	2,823	3,892	4,238	4,691	4,196
Liquefied petroleum gas (butane) do	31	39	51	58	72
Asphalt and bitumen do	153	148	151	134	134
Other do	48	30	12	35	39
Total do	5,047	6,177	7,392	[r] 7,858	7,689

[e] Estimate. [r] Revised.

[1] Apparently includes small quantities of diatomite.

[2] Includes estimated output from sulfur ores: 6,000 tons in 1962 and 500 tons in 1963.

[3] Derived from petroleum.

Table 2.—United Arab Republic (Egypt): Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel: Semimanufactures	NA	3,076	West Germany 1,475; Mali 1,158.
Manganese ore thousand tons	182	163	Italy 46; United Kingdom 34; West Germany 21; Netherlands 18; Japan 17.
Nonmetals:			
Cement do	[r] 158	310	Saudi Arabia 93; Palestine (Gaza Strip) 68; Sudan 40; Yemen 21.
Clay, kaolin	NA	3,846	Italy 3,000; Japan 846.
Construction materials, crushed rock	NA	7,847	All to Palestine (Gaza Strip).
Fertilizer materials:			
Crude: Phosphate rock thousand tons	328	374	Yugoslavia 99; India 99; mainland China 83; Ceylon 44; Czechoslovakia 35.
Manufactured:			
Nitrogenous	NA	7,000	All to Yugoslavia.
Phosphatic	31,249	24,311	Italy 10,600; Yugoslavia 6,316; United States 2,984.
Gypsum, calcined thousand tons	79	38	Japan 25.
Pyrite, roasted do	---	5	All to Iraq.
Salt do	332	230	Japan 205; Yugoslavia 11.
Talc and steatite	1,645	1,185	West Germany 330; Poland 250; East Germany 205.
Mineral fuels:			
Petroleum:			
Crude thousand tons	3,030	1,618	Italy 770; Spain 255; United States 233; Czechoslovakia 175.
Refinery products:			
Gasoline do	478	438	United States 161; Japan 101; Ceylon 64; Italy 60.
Kerosine do	13	16	All to Palestine (Gaza Strip).
Fuel oils, mainly residual do	[r] 1,146	1,761	Greece 700; Italy 263; Netherlands 161; United Kingdom 145; Aden 67.
Asphalt and bitumen do	24	8	Cyprus 4; Mali 3.
Total do	1,661	2,223	

[r] Revised. NA Not available.

Table 3.—United Arab Republic (Egypt): Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum, all forms[1]	5,215	5,562	U.S.S.R. 2,948; France 2,485; United States 993.
Copper, all forms[1]	5,306	3,402	Democratic Republic of the Congo 1,179; United Kingdom 922.
Iron and steel:			
Scrap	44,353	30,245	United States 14,581; Iraq 9,530.
Pig iron and ferroalloys	50,806	138,649	U.S.S.R. 47,426; mainland China 35,488; Spain 21,627.
Semimanufactures:			
Bars and rods	106,737	40,680	Czechoslovakia 19,045; mainland China 11,532.
Angles and shapes	31,866	34,212	Mainland China 15,516; Hungary 3,477; Yugoslavia 2,989.
Plate and sheet	84,113	117,208	France 30,944; U.S.S.R. 20,737; Czechoslovakia 13,826; United States 13,405.
Hoop and strip	8,637	18,780	Czechoslovakia 10,617; West Germany 2,568.
Tubes, pipes, and fittings	17,734	23,024	West Germany 3,943; United Kingdom 3,836; Italy 3,646; Japan 2,979.
Wire	7,250	12,607	Mainland China 4,250; U.S.S.R. 2,011; Czechoslovakia 2,000.
Rails and accessories	16,165	17,846	United Kingdom 10,653; Italy 5,531.
Special steels	6,961	5,082	Japan 2,804; Czechoslovakia 588; Poland 556.
Total	279,463	269,439	
Lead, all forms[1]	5,618	4,621	Tunisia 1,704; U.S.S.R. 900; Sudan 773.
Manganese	NA	245	Mainland China 239.
Mercury 76-pound flasks	NA	377	France 232; Japan 145.
Precious metals:			
Gold troy ounces	NA	649	All from West Germany.
Platinum do	NA	5,223	Do.
Silver thousand troy ounces	NA	804	All from mainland China.
Tin, all forms[1] long tons	662	509	NA.
Zinc, semimanufactures	---	1,527	U.S.S.R. 916; West Germany 246; Poland 202.
Metallic ores, undifferentiated thousand tons	---	10	All from Tunisia.
Metallic oxides, mainly for paint	[e] 900	[e] 3,800	Mainland China 1,208; France 1,111; Poland 517.
Nonmetals:			
Abrasive materials	NA	406	All from Greece.
Asbestos	3,414	4,606	Canada 3,906; Rhodesia 697.
Barite	NA	800	All from Greece.
Carbon and carbon black	1,390	2,218	France 1,368; Rumania 695.
Cement thousand tons	NA	289	Rumania 189; Iraq 99.
Clay, mainly kaolin	7,921	10,113	Czechoslovakia 3,508; Greece 1,397; Italy 1,242; East Germany 1,104.
Diatomite	NA	2,207	All from Czechoslovakia.
Dolomite and magnesite	NA	3,314	Czechoslovakia 2,171; Hungary 665; Yugoslavia 478.
Feldspar	NA	505	All from mainland China.
Fertilizer materials:			
Nitrogenous thousand tons	517	487	Italy 242; East Germany 75; Belgium 39; Norway 38.
Phosphatic do		48	Spain 20; Yugoslavia 20.
Undifferentiated do		69	Italy 64.
Graphite	NA	5,951	All from mainland China.
Pigments, earth	NA	845	Spain 574; Cyprus 271.
Refractory materials, brick	3,797	3,782	Czechoslovakia 2,249; West Germany 587.
Stone, building:			
Marble	255	---	
Other dimension thousand square meters	NA	104	All from Czechoslovakia.
Crushed	NA	594	All from Yugoslavia.
Sulfur:			
Pyrite	59,208	45,464	Spain 27,834; Cyprus 13,330.
Elemental	[r] 42,270	38,027	Greece 5,373; France 5,105.
Talc	NA	175	All from Italy.
Wax, mineral	NA	2,189	East Germany 1,117; mainland China 414; France 376.
Nonmetals, not elsewhere specified, sodium compounds.	61,441	61,105	Rumania 29,701; France 14,536; East Germany 12,039.

See footnotes at end of table.

Table 3.—United Arab Republic (Egypt): Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Mineral fuels:			
Coal ---------- thousand tons --	301	409	U.S.S.R. 386; Poland 21.
Coke ---------- do ----	216	33	Poland 32.
Petroleum:			
Crude ---------- do ----	4,750	3,981	Saudi Arabia 1,540; Kuwait 865; Libya 763; U.S.S.R. 688.
Refinery products:			
Gasoline ----------	8,883	11,236	Iran 8,265; United States 2,082.
Kerosine ----------	22,061	35,935	Iran 20,900; United States 1,211.
Fuel oils ----------	137,975	15,698	U.S.S.R. 6,662 (residual); Rumania 3,868 (distillate); Iran 3,142 (residual).
Lubricants ----------	57,951	45,707	United States 26,586; United Kingdom 12.846.
Wax, jelly, and other ----------	2,150	3,292	Rumania 1,701; Netherlands 572.
Total ----------	229,020	111,868	

[e] Estimate. [r] Revised. NA Not available.

[1] Unwrought, scrap, and semimanufactures, including alloys.

United Kingdom

Table 1.—United Kingdom: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Metals:					
Aluminum:					
Primary	34,576	31,065	32,220	36,207	37,135
Secondary	131,780	148,970	171,614	[r] 177,993	183,610
Cadmium kilograms	107,610	111,826	197,439	220,483	182,889
Copper:					
Electrolytic	25,290	29,804	30,510	34,838	46,640
Fire refined	206,456	[r] 170,736	[r] 200,830	[r] 201,569	141,822
Total	231,746	[r] 200,540	[r] 231,340	[r] 236,407	188,642
Primary—all from imported blister included in total	118,862	91,429	112,502	102,802	43,743
Brass and bronze ingots	131,727	124,849	132,877	135,102	136,534
Iron and steel:					
Iron ore, 27 percent Fe thousand tons	15,522	15,151	16,588	15,662	12,657
Pig iron and blast furnace ferroalloys do	13,912	14,825	17,551	17,740	15,962
Other ferroalloys do	175	120	169	191	166
Steel ingots and castings do	20,820	22,881	[r] 26,651	[r] 27,444	24,705
Net finished steel deliveries, new material do	15,867	17,521	20,611	20,466	19,268
Of which from imported finished steel do	627	948	1,104	537	777
Lead:					
Ore and concentrate, lead content	405	250	180	92	---
Refined lead [1]	90,026	96,584	122,690	127,453	112,554
Magnesium	[r] 5,043	[r] 4,735	[r] 4,989	[r] 5,375	[e] 5,400
Nickel, refined and ferronickel	38,300	38,100	38,000	40,500	NA
Silver troy ounces	514	---	---	---	---
Tin:					
Ore and concentrate, tin content long tons	1,181	1,226	1,226	1,313	1,272
Refined:					
Primary do	18,749	17,411	16,849	16,494	17,499
Secondary do	1,198	1,278	2,466	1,869	1,279
Zinc, slab	98,837	100,617	111,036	106,814	101,346
Nonmetals:					
Barite and witherite	76,888	55,398	62,000	61,000	31,000
Calcite	28,400	24,400	25,400	24,400	NA
Cement thousand tons	14,253	14,060	16,966	16,968	17,136
Chalk do	17,967	17,568	18,556	18,955	NA
Chert and flint do	[r] 140	99	142	138	NA
China stone do	53	51	58	44	NA
Clays:					
China clay do	1,724	1,928	2,066	[r] 2,244	[e] 2,460
Fire clay do	1,918	1,712	1,923	1,816	NA
Potters and ball clays do	[r] 578	602	626	640	NA
Other clays and shale do	12,352	17,319	20,485	[e] 21,000	NA
Diatomite	20,332	14,466	13,937	[r] 14,000	[e] 14,000
Fluorspar	72,900	[2] 88,500	156,500	[r] 173,500	185,000
Gypsum and anhydrite thousand tons	4,063	[r] 4,135	4,587	[r] 4,465	4,358
Igneous rock do	18,574	19,267	23,314	24,315	NA
Limestone do	44,760	47,878	57,996	[r] 60,548	68,193
Pyrites (gross weight)	27,421	26,422	[e] 26,400	NA	NA
Salt:					
Rock thousand tons	485	764	704	735	1,06
Evaporated do	1,280	1,411	1,369	1,451	1,47
Other do	4,312	4,320	4,672	4,814	4,80
Sand:					
For glassmaking do	1,161	1,245	1,396	1,390	N
Other silica sand do	572	506	736	1,079	N
Molding and pig bed sand do	806	846	908	908	NA
Other industrial sand and gravel do	81,446	85,190	102,472	102,094	90,60
Sandstone do	5,322	5,395	6,927	7,550	N
Slate do	94	125	123	123	N
Strontium minerals	6,637	9,164	17,306	[r] 9,702	N

See footnotes at end of table.

Table 1.—United Kingdom: Production of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966 [p]
Nonmetals—Continued					
Sulfur, recovered elemental includes sulfur recovered from petroleum refineries	52,762	47,275	54,563	[r] 48,762	[e] 49,000
Talc, includes steatite and pyrophyllite	7,475	8,104	10,318	[r] 10,137	[e] 10,000
Mineral fuels:					
Coal:					
Anthracite thousand tons	3,965	4,226	4,672	4,270	4,523
Bituminous do	196,641	194,712	192,063	186,238	172,853
Coke and coke breeze:					
Coke oven coke do	15,812	15,792	17,220	17,381	16,376
Gashouse coke do	9,876	9,923	8,981	7,884	7,279
Coke breeze, total do	3,650	3,680	3,620	3,430	NA
Fuel briquets do	1,573	1,679	1,351	[r] 920	[e] 900
Gas, natural million cubic feet	115	[r] 200	[r] 200	176	NA
Oil shale thousand tons	159	---	---	---	---
Shale oil do	16	---	---	---	---
Crude petroleum [3] do	113	125	129	83	78
Carbon black do	128	140	153	160	[e] 167
Refinery products:					
Liquid petroleum gases do	643	942	1,228	1,419	1,058
Light distillate feedstock for gasworks do	819	1,037	1,401	1,550	NA
Aviation gasoline thousand tons	198	145	166	165	9,447
Wide cut gasoline do	1,294	699	847	593	
Motor and industrial spirit do	7,147	6,927	7,805	8,852	
White spirit do	142	143	144	126	175
Kerosine, including jet fuel do	2,652	3,132	3,220	3,429	3,852
Gas/diesel oil do	10,126	10,961	12,185	13,638	14,898
Fuel oil do	22,314	21,481	23,176	26,288	29,128
Lubricating oils do	913	983	1,053	1,017	1,090
Bitumen do	1,240	1,326	1,482	1,445	1,601
Paraffin do	39	56	60	54	NA
Feedstocks for petroleum chemical plants do	1,130	1,502	1,566	2,138	NA
Miscellaneous products do	247	258	245	192	NA
Total do	48,904	49,592	54,578	60,906	NA

[e] Estimate. [p] Preliminary. [r] Revised. NA Not available.

[1] Does not include lead refined from imported bullion, but includes secondary refined lead.

[2] Includes fluorspar recovered from old lead and zinc mine dumps.

[3] Includes petroleum gases.

Table 2.—United Kingdom: Exports [1] of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Aluminum oxide and hydroxide	17,413	21,251	Poland 17,585; Finland 1,521.
Metal and alloys:			
Metal, unwrought	6,849	24,536	Poland 7,060; United States 6,274; Sweden 2,331; Rumania 2,189.
Semimanufactures	47,826	46,439	Republic of South Africa 3,442; Sweden 3,348; Ghana 3,288; Canada 3,024; Belgium-Luxembourg 2,652; Ireland 2,632; Finland 2,110.
Antimony, regulus and refined	1,096	NA	NA.
Bismuth	728	535	NA.
Chromium	625	606	NA.
Cobalt oxides and hydroxides	471	374	Netherlands 60; Spain 46; West Germany 37; Canada 21.
Copper and alloys:			
Unwrought	71,543	78,069	West Germany 22,171; Netherlands 13,968; Italy 10,452.
Semimanufactures	64,006	78,205	Spain 7,360; United States 7,036; New Zealand 6,679; Ireland 5,393; Switzerland 5,162; Poland 3,878; Australia 3,619.
Gold:			
Bullion, refined thousand troy ounces	17,593	76,518	NA.
Leaf gold do	37	46	NA.
Gold coin do	2,630	2,296	NA.
Iron and steel:			
Scrap thousand tons	716	430	Spain 157; Netherlands 89; Italy 54; Sweden 52.
Pig iron and ferroalloys do	74	129	Belgium-Luxembourg 25; Iran 20; United States 15; Switzerland 9.
Ingots and other primary steel forms do	204	296	United States 99; Spain 46; Italy 40; Canada 36; West Germany 29.
Semimanufactures:			
Wire rod do	98	76	United States 40; Belgium-Luxembourg 7; Canada 7.
Other bars and rods do	262	314	India 32; United States 30; Canada 21; Sweden 21; Denmark 14; Netherlands 14.
Angles, shapes and sections:			
Heavy do	290	319	United States 63; Australia 36; Canada 33; New Zealand 28; Hong Kong 16.
Light do	57	66	Nigeria 5; Australia 4; Ireland 4; Republic of South Africa 4; Spain 4.
Plates and sheets:			
Universals and heavy plate do	297	269	Canada 51; India 44; Norway 28; Spain 19; Hong Kong 16.
Medium plate do	131	76	Sweden 15; Poland 8; Republic of South Africa 8; Denmark 6; Spain 5.
Thin plates and sheets:			
Uncoated do	916	855	Sweden 65; East Germany 42; Argentina 34; Iran 33; Finland 32; United States 29.
Coated:			
Tin plate and tinned sheets do	395	397	Republic of South Africa 83; Argentina 37; Spain 35; United States 29; Sweden 25.
Other do	183	217	Finland 30; Norway 20; New Zealand 16; Sweden 13; Republic of South Africa 9.
Hoop and strip do	105	96	India 11; United States 10; Finland 8; Canada 7; New Zealand 6; Australia 5.
Railway track material do	182	306	France 60; Republic of South Africa 33; Norway 30; Italy 20; West Germany 18; Netherlands 18.
Wire do	123	126	United States 23; Canada 21; New Zealand 10; Australia 6; Hong Kong 6.
Tubes, pipes and fittings do	550	550	Libya 51; United States 44; Algeria 33; New Zealand 32; U.S.S.R. 31; Sweden 28; Canada 26; Netherlands 26.
Rough castings and forgings do	23	42	Belgium-Luxembourg 25; Sweden 6; Netherlands 3.

See footnotes at end of table.

Table 2.—United Kingdom: Exports [1] of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals—Continued			
Lead:			
Lead oxides	4,344	4,774	Ireland 1,195; Sweden 1,040; Norway 442; West Germany 343.
Metal and alloys:			
Unwrought	40,119	42,822	West Germany 18,243; Spain 5,435.
Semimanufactures	1,986	1,902	Pakistan 127; Nigeria 124; Hong Kong 114; Norway 107; Israel 101; India 94; Malaysia 91; Sweden 89.
Magnesium and alloys, unwrought and semimanufactures.	1,659	1,769	West Germany 740; France 369; United States 201.
Nickel:			
Matte and speiss	278	NA	NA.
Oxides	151	39	NA.
Metal and alloys:			
Unwrought	27,319	28,228	West Germany 9,610; Sweden 4,481; France 3,768; Italy 2,947.
Semimanufactures	7,617	6,829	United States 759; France 665; Sweden 633; Australia 623; Netherlands 528
Platinum group metals__thousand troy ounces	781	906	United States 301; Canada 254; West Germany 101; Japan 84.
Silver and alloys, unwrought and semimanufactured____do	21,139	28,676	West Germany 6,563; Belgium-Luxembourg 5,529; Italy 4,020; France 3,909.
Tin:			
Ores and concentrates_long tons	73	---	NA.
Oxides____do	405	411	Spain 89; Sweden 52; Mexico 47; Brazil 36; Poland 31; India 27.
Metal and alloys:			
Unwrought____do	9,409	9,275	U.S.S.R. 1,850; United States 1,193; France 1,023; Poland 731; Sweden 563; Rumania 500.
Semimanufactures____do	520	975	West Germany 443; Norway 246.
Tungsten ores and concentrates	1,326	---	
Zinc:			
Zinc oxides	5,698	3,688	France 448; West Germany 429; Malaysia 380; Ireland 369.
Metal and alloys:			
Unwrought	6,023	1,254	Ireland 207; Sweden 201.
Semimanufactures	5,622	6,289	Netherlands 1,691; France 460.
Nonferrous base metals, not elsewhere specified:			
Ores and concentrates	15,864	16,612	Belgium-Luxembourg 3,866; Netherlands 3,459.
Scrap	33,162	[r] 50,697	West Germany 17,368; Belgium-Luxembourg 8,158.
Other	3,878	4,257	United States 1,640; France 380.
Nonmetals:			
Abrasives, natural, n.e.s.	4,701	3,175	Ireland 267; Sweden 247; Australia 242.
Asbestos:			
Crude or simply processed	5,773	6,040	West Germany 1,025; United States 805.
Asbestos cement products	58,868	38,353	Nigeria 5,324; Ghana 2,769.
Fabricated asbestos products, excluding friction materials.	29,193	---	
Cement, hydraulic____thousand tons	293	281	Ghana 89; Australia 25.
Clays and refractories:			
Crude:			
China clay__thousand tons	1,383	1,506	NA.
All other____do	368	[r] 371	NA.
Total____do	1,751	[r] 1,877	West Germany 311; Italy 271.
Clay construction materials:			
Brick and other nonrefractory____do	68	71	Australia 16; Canada 9.
Refractory____do	141	157	Netherlands 21; Sweden 16.
Other	8,769	7,750	Republic of South Africa 734; Ireland 629.
Corundum artificial	1,304	809	NA.
Fertilizer materials, manufactured:			
Nitrogenous____thousand tons	384	439	Ceylon 122; Malaysia 72.
Other____do	20	55	Spain 21; Ireland 6.
Gypsum	7,724	NA	NA.
Iodine____kilograms	24,591	NA	NA.
Lime	30,338	38,165	Norway 7,735; Nigeria 5,586; Ghana 5,281; Ireland 3,967.
Pigments, mineral	6,504	3,661	NA.
Quartz, mica and feldspar	17,585	24,463	United States 4,817; Australia 3,643 Canada 2,843; Ireland 2,167.
Salt____thousand tons	363	405	Sweden 120; Nigeria 78; New Zealand 37; Ireland 31.

See footnotes at end of table.

Table 2.—United Kingdom: Exports [1] of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Stone, sand and gravel Thousand tons	189	212	Ireland 86; West Germany 81; Norway 13
Cut stone	2,099	3,829	France 1,648; Ireland 1,135.
Strontium minerals (celestite)	15,479	NA	NA.
Crude minerals, n.e.s. thousand tons	173	252	Norway 174; Sweden 32.
Slag, scalings, dross, etc. do	386	327	West Germany 259; Denmark 22; Ireland 21.
Mineral fuels:			
Carbon black	38,416	38,466	NA.
Coal, anthracite and bituminous thousand tons	5,965	3,856	Netherlands 956; France 825; West Germany 543; Denmark 432; Ireland 411.
Coal briquets do	51	33	Ireland 14; Norway 10; France 6.
Coke from coal and lignite do	1,489	1,009	Norway 429; Sweden 175; Portugal 87; Denmark 82.
Petroleum:			
Crude and partly refined thousand tons	341	272	Netherlands 234; West Germany 37.
Refinery products:			
Gasoline do	1,300	1,595	Sweden 474; Denmark 247; France 234.
Kerosine do	738	781	Ireland 196; Sweden 151.
Distillate fuels do	3,300	3,881	Sweden 1,410; Denmark 847; Netherlands 447; West Germany 436; Norway 299.
Residual fuel oil do	3,259	3,932	Sweden 1,244; Denmark 872; Netherlands 497; Norway 453.
Lubricants:			
Oils do	528	520	India 38; Netherlands 38; West Germany 35; Belgium 31.
Greases and impregnating compounds thousand tons	35	76	NA.
Mineral jelly and waxes	6,713	5,274	Ireland 767; West Germany 626; Sweden 590; Indonesia 335.
Nonchemical coal and petroleum wastes thousand tons	261	246	France 65; Norway 37; Spain 28.
Electric energy megawatt-hours	305,963	103,069	All to France.

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r Revised. NA Not available.

[1] Excluding reexports.

Table 3.—United Kingdom: Reexports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum and alloys, unwrought	480	183	Belgium-Luxembourg 106; Denmark 51.
Copper and alloys, unwrought	638	3,321	Czechoslovakia 2,477; Italy 229.
Lead and lead alloys, unwrought	2,617	5,429	China (Mainland) 3,097; Spain 1,067; United States 506.
Mercury 76-pound flasks	11,400	13,025	Canada 6,237; Netherlands 2,089; Australia 783; West Germany 696.
Nickel and alloys:			
Unwrought	10,482	9,895	West Germany 2,967; France 2,430; Italy 1,940; Sweden 1,769.
Semimanufactures	741	799	Italy 230; Spain 128; Sweden 113; Republic of South Africa 73.
Tin and alloys, unwrought long tons	252	180	Turkey 63; United States 35; Rumania 25.
Zinc and alloys, unwrought	3,375	8,270	China (Mainland) 3,648; Argentina 568; India 517.
Nonmetals:			
Asbestos, crude or simply processed	227	152	Netherlands 68.
Fertilizer materials, manufactured	2,297	2,030	Ireland 2,026.
Graphite natural	61	67	NA.
Mica, including splittings and waste	246	2,493	West Germany 661; Netherlands 286.
Quartz, mica, and feldspar	236	2,533	West Germany 667; Italy 288; Netherlands 287.
Salt	915	---	
Stone, sand and gravel	59,512	---	
Talc, natural steatite	7,369	323	Ireland 177.
Mineral fuels:			
Coal, coke and briquets	9	29	NA.
Petroleum:			
Crude	NA	NA	NA.
Refinery products:			
Gasoline	r 10,318	r 6,523	All to Ireland.
Kerosine	r 13,546	r 3,798	Ireland 3,103; Portugal 678.
Distillate fuels	r 36,371	r 4,100	Netherlands 4,099.
Residual fuel oil	---	r 1,201	France 989.
Lubricating oils, greases	---	r 1,573	Ireland 1,263.
Lubricants (high petroleum contents).	---	r 1,569	Ireland 1,262.
Mineral jelly, wax	101	77	NA.

NA Not available.

Table 4.—United Kingdom: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum:			
Bauxite thousand tons	381	474	Ghana 278; Greece 86; France 75.
Metal and alloys:			
Scrap	12,255	23,772	U.S.S.R. 15,475; United States 5,136; East Germany 1,641.
Unwrought	331,618	324,074	Canada 167,747; Norway 67,171; United States 41,638; U.S.S.R. 13,520.
Semimanufactures	26,733	24,312	Belgium-Luxembourg 7,120; Ireland 3,662; Switzerland 3,253; Austria 2,009.
Antimony ore and concentrates	(1)	(1)	NA.
Arsenic trioxide	9,773	11,089	NA.
Bismuth:			
Metal	619	397	NA.
Alloys	385	297	NA.
Cadmium	1,596	1,454	NA.
Chromite	225,558	205,004	Philippines 93,155; Republic of South Africa 68,798; Southern Rhodesia 17,223.
Cobalt:			
Oxides	1,006	[r] 872	Canada 840.
Metal	1,553	1,833	NA.
Columbium-tantalum ores	1,555	1,780	NA.
Copper and alloys:			
Ores and concentrates	1,373	811	Peru 808.
Metal and alloys:			
Scrap	3,630	5,758	Canada 1,875; Ireland 863; United States 712; France 109.
Unwrought:			
Blister	100,656	74,210	Chile 36,630.
Electrolytic	428,718	512,806	Zambia 234,355; Canada 100,998; United States 55,071; Chile 48,675.
Fire refined			
Alloys, including master alloys.	313	127	NA.
Semimanufactures	9,956	7,350	Canada 3,192; West Germany 980; Italy 668.
Gold:			
Ores, concentrates, jewelers sweeping, etc. estimated gold content thousand troy ounces	65	NA	NA.
Bullion:			
Unrefined do	1,550	1,527	NA.
Refined do	39,299	37,885	NA.
Other do	5	9	NA.
Gold coin do	359	605	NA.
Iron and steel:			
Iron ore and concentrates:			
Iron ore excluding pyrites thousand tons	18,309	[r] 18,608	Sweden 5,884; Canada 3,055; Venezuela 1,733; Liberia 1,559; Mauritania 1,539; Algeria 1,054.
Roasted pyrites do	609	567	Sweden 278; Italy 143; Spain 93.
Scrap do	14	74	United States 56.
Pig iron, including shot and sponge iron do	353	333	Finland 101; East Germany 92; Norway 63; Canada 30.
Ferroalloys:			
Ferromanganese do	63	82	Republic of South Africa 55.
Ferrochromium do	48	62	NA.
Ferrosilicochromium do	5	124	Norway 103; Republic of South Africa 55; Canada 32; U.S.S.R. 20.
Ferrosilicon do	110		
Silicomanganese do	36	33	NA.
Other do	5	7	NA.
Steel ingots and other primary forms do	[r] 640	30	Ireland 12; Sweden 5; France 4.
Coils for rerolling do	176	NA	NA.
Semimanufactures:			
Wire rod do	86	34	Sweden 17; Belgium-Luxembourg 13.
Other bars and rods do	187	104	Norway 32; Sweden 29; Belgium-Luxembourg 20.
Angles, shapes, and sections do	39	9	West Germany 3; Belgium-Luxembourg 2; Norway 1; United States 1.

See footnotes at end of table.

Table 4.—United Kingdom: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Iron and steel—Continued			
Semimanufactures—Continued			
Plates and sheets:			
Heavy and medium plate ---- do ----	60	31	Sweden 23.
Thin plates and sheets:			
Uncoated ---- do ----	426	236	Netherlands 135; West Germany 35; Norway 20.
Coated:			
Tinplate and tinned sheets thousand tons --	19	---	
Other --- do ----	43	18	Belgium-Luxembourg 4; Canada 3; United States 3.
Hoop and strip ------- do ----	42	37	West Germany 20; Belgium-Luxembourg 9.
Tubes, pipes, and fittings do ----	26	68	France 15; United States 13; West Germany 12.
Wire, single strand ---- do ----	5	5	Sweden 2.
Rough castings and forgings do ----	[r] 2	[r] 3	Mainly from West Europe.
Lead:			
Ores and concentrates ----------	31,508	22,027	Canada 9,693; Australia 7,099; Norway 3,828.
Metal and alloys:			
Scrap -------------------	4,235	2,713	Netherlands 341; Australia 282; Lebanon 277; Ireland 253.
Unwrought ---------------	[r] 195,354	[r] 219,411	Australia 124,100; Canada 54,707.
Worked -----------------	[r] 256	[r] 17	NA.
Magnesium and alloys:			
Scrap ----------------------	683	350	West Germany 204; Tanzania 51; Belgium-Luxembourg 46.
Unwrought and semimanufactures.	3,209	4,584	Canada 2,781; Norway 1,422.
Manganese ore and concentrates thousand tons --	534	503	Republic of South Africa 147; U.S.S.R. 122; Brazil 94.
Mercury ---------- 76-pound flasks --	33,620	30,487	Italy 14,732; Spain 9,950.
Molybdenum ore and concentrates ---	6,541	8,177	NA.
Nickel:			
Ores and concentrates ----------	---	---	
Matte and speiss --------------	57,363	65,076	Canada 64,033.
Metal and alloys:			
Scrap -------------------	3,798	3,263	France 824; United States 807; Netherlands 469.
Unwrought ---------------	29,794	26,861	Canada 13,368; Norway 5,382.
Semimanufactures ----------	5,105	2,847	United States 1,416; Canada 1,187.
Platinum group metals, all forms thousand troy ounces --	108	[r] 150	U.S.S.R. 69; United States 26; Italy 22; Switzerland 12.
Selenium ------------------------	150	178	NA.
Silicon -------------------------	10,584	12,000	NA.
Silver:			
Ores and concentrates ----------	[r] 3,372	[r] 4,716	South Africa 4,455.
Unwrought and semimanufactures --- thousand troy ounces --	62,487	46,825	United States 19,990; Australia 5,293; U.S.S.R. 9,388; Peru 2,130.
Tin:			
Ores and concentrates - long tons --	44,821	45,370	Bolivia 38,789; Republic of South Africa 1,908.
Metal and alloys:			
Scrap -------------- do ----	1,138	1,131	Poland 316; United States 258; Netherlands 153; France 102.
Unwrought ---------- do ----	[r] 8,938	[r] 9,282	Nigeria 5,737; Malaysia 2,204.
Semimanufactures ----- do ----	[r] 31	24	NA.
Titanium ores and concentrates:			
Ilmenite ----------------------	181,841	270,695	NA.
Other ------------------------	35,495	17,508	NA.
Tungsten ore and concentrates -------	6,381	8,063	China (Mainland) 1,703; U.S.S.R. 1,343; Bolivia 1,246; Republic of Korea9 25; Australia 554.
Zinc:			
Ores and concentrates ----------	308,958	233,779	Australia 67,931; Iran 22,586.
Scrap -----------------------	3,380	1,966	Netherlands 694; Norway 338; Sweden 226; West Germany 157.

See footnotes at end of table.

Table 4.—United Kingdom: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals—Continued			
Zinc—Continued			
Metal and alloys:			
Unwrought:			
High purity	[r] 194,503	[r] 196,949	Canada 99,366; U.S.S.R. 32,472; Australia 23,983.
Electrolytic			
Other			
Semimanufactures	[r] 615	294	Belgium-Luxembourg 210.
Zirconium ore and concentrates	50,160	42,920	NA.
Other:			
Nonferrous ores and concentrates, not elsewhere specified.	[1] 29,433	[1] 15,370	NA.
Metalliferous nonferrous waste, not elsewhere specified.	[r] 33,691	[r] 64,669	Canada 30,807; Spain 8,133.
Nonferrous base metals, n.e.s.:			
Tungsten, molybdenum tantalum.	150	187	Austria 86; United States 38; Netherlands 20; Canada 11.
Other	9,507	8,994	United States 2,381; Japan 1,672; Zambia 1,383; U.S.S.R. 598.
Nonmetals:			
Asbestos:			
Crude	186,555	178,958	Canada 94,760; Republic of South Africa 42,208.
Asbestos cement products	29,783	34,456	Belgium-Luxembourg 15,560; Ireland 10,834; France 4,794.
Barite and witherite	47,328	68,205	Morocco 21,744; Spain 16,734.
Boron:			
Crude natural borates	30,374	42,787	Netherlands 23,274; Turkey 14,805; United States 4,536.
Borax	27,717	22,201	NA.
Cement hydraulic thousand tons	420	1,126	Ireland 337; West Germany 337.
Chalk	1,694	1,099	Belgium-Luxembourg 451; France 590.
Clays and clay products:			
Crude:			
Andalusite, kyanite, sillimanite, mullite, dinas, and chamotte.	27,798	26,587	United States 51,307; South Africa 36,097.
Other	61,701	85,251	NA.
Clay construction materials (nonrefractory).	31,724	21,303	France 4,492; Belgium-Luxembourg 3,765; West Germany 3,412.
Cryolite, chiolite natural	3,454	2,534	Denmark 2,530.
Diatomite and other siliceous earths	58,325	46,664	NA.
Dolomite	12,255	13,976	Norway 10,722.
Feldspar	59,034	98,468	Norway 67,638; Canada 18,973.
Fluorspar	33,066		
Fertilizer materials:			
Nitrogenous:			
Sodium nitrate, natural thousand tons	15	18	All from Chile.
Manufactured do	298	269	West Germany 124; Netherlands 120.
Phosphatic:			
Phosphate rock do	1,510	1,694	Morocco 886; United States 282.
Basic slag do	78	47	Belgium-Luxembourg 28; France 19.
Other phosphates do	17	13	Netherlands 10; West Germany 2.
Potassic:			
Potash salts, crude natural do	38	38	East Germany 24; West Germany 14.
Potassium chloride do	673	691	East Germany 223; France 208; West Germany 162.
Potassium sulfate do	34	34	
Other do	9	3	
Crude fertilizers not elsewhere specified do	9	13	All from Ireland.
Manufactured fertilizers, n.e.s. do	119	143	Netherlands 130; Chile 8.
Graphite, natural	9,406	10,516	Madagascar 5,009; Ceylon 2,435; Norway 1,069.
Gypsum, crude and calcined thousand tons	157	159	Ireland 100; France 59.
Lithium minerals	10,465	NA	NA.
Magnesite	87,592	109,674	Austria 36,341; Greece 17,508; Yugoslavia 11,454.
Mica:			
Film, splittings, and waste	1,272	1,649	India 12,291; South Africa 799.
Manufactures	5,504	12,267	
Pigments, earth colors, etc.	6,562	8,093	South Africa 2,266; Cyprus 1,342; Austria 945.
Pumice and other natural abrasives	14,553	14,046	NA.
Pyrites, unroasted thousand tons	289	228	Cyprus 129; U.S.S.R. 52.

See footnotes at end of table.

Table 4.—United Kingdom: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Quartz, natural, quartzite	18,276	16,835	Sweden 8,254; Norway 6,780.
Refractory construction materials, n.e.s.	51,712	63,172	Austria 26,149; Denmark 11,111; Ireland 10,501; France 4,943.
Salt ... thousand tons	38	60	West Germany 35; Poland 10.
Stone, sand and gravel:			
Building and dimension stone (rough cut) ... thousand tons	41	43	Italy 24; Sweden 5.
Dimension stone worked ... do	27	21	Portugal 11; Italy 3.
Natural sands, not mineral bearing ... do	211	207	Belgium-Luxembourg 171; Netherlands 27.
Gravel and crushed stone	115	138	Ireland 63; Italy 33.
Talc and soapstone	49,511	46,656	Norway 18,106; France 8,726; Italy 6,987.
Crude minerals, n.e.s.	198,797	246,004	United States 57,261; South Africa 37,621; Austria 36,583.
Slag, scalings, dross, not metal-bearing.	42,229	64,813	Sweden 52,336; West Germany 5,969.
Mineral fuels:			
Asphalt and bitumen, natural	99,755	83,295	Trinidad 48,593; France 19,562.
Coal, coke and briquets ... thousand tons	57	56	Ireland 53.
Gas, natural and manufactured ... do	64	703	Algeria 520.
Petroleum:			
Crude and partly refined for further refining ... thousand tons	[r] 60,579	[r] 67,165	Kuwait 14,617; Libya 11,509; Iraq 10,512; Venezuela 7,676; Nigeria 6,936; Saudi Arabia 4,454.
Refinery products:			
Gasoline, including blending components ... do	[r] 3,460	[r] 3,419	Netherlands 849; Trinidad 355.
Kerosine ... do	[r] 2,767	[r] 3,138	Netherlands 790; Italy 487; Aden 434.
Distillate fuel oil ... do	[r] 3,014	[r] 3,011	Italy 933; Kuwait 261; Netherlands 237; Venezuela 224.
Residual fuel oil ... do	[r] 9,154	[r] 9,992	Venezuela 2,379; Italy 2,313; Netherlands 1,824; Trinidad 798; France 563.
Lubricating oils ... do	[r] 544	[r] 559	United States 183; Netherlands Antilles 154; Venezuela 95.
Other lubricants ... thousand tons	NA	NA	NA.
Mineral jelly and waxes ... do	178	123	Netherlands Antilles 43; Netherlands 40.
Petroleum coke ... do	96	94	Netherlands 44; United States 32.
Other ... do	NA	NA	NA.

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[r] Revised. NA Not available.

[1] Not separately recorded; included under other nonferrous ores.

Upper Volta

Table 1.—Upper Volta: Production of gold [1]

(Troy ounces)

Year	Quantity
1962	39,770
1963	44,786
1964	32,665
1965	[r] 32,504
1966	16,075

[r] Revised.

[1] Output of other mineral commodities is not reported.

Uruguay

Table 1.—Uruguay: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Secondary metal	NA	NA	150	150	305
Semimanufactures	NA	NA	1,500	1,035	1,126
Iron and steel:					
Iron ore	NA	1,031	1,667	[e] 1,700	NA
Crude steel [1]	8,567	6,500	14,327	13,476	[e] 23,000
Ferrosilicon	NA	NA	[e] 800	1,500	[e] 1,000
Rolled products	[1] 23,563	[1] 21,970	[e] 39,000	[1] 36,300	36,000
Nonmetals:					
Alum schist	136	79	35	114	288
Cement	374,420	339,727	412,164	431,433	478,143
Clays:					
Refractory	1,681	3,217	484	4,679	8,270
Other [2]	9,286	NA	36,000	48,418	54,732
Dolomite	[3] 703	26,806	26,937	20,413	28,940
Feldspar	703	287	897	1,247	1,750
Gem stones, exports [4]	81	92	103	54	58
Lime [e]	32,400	30,000	42,000	60,000	60,000
Limestone	601,356	NA	750,394	746,509	770,669
Quartz	739	1,681	1,256	292	525
Sand and gravel:					
Common sand	513,416	470,667	441,906	657,056	745,372
Quarry sand	30,881	32,401	35,234	34,463	17,938
Gravel	108,473	32,624	47,447	113,776	72,813
Stone:					
Granite, exports	1,775	896	1,236	2,301	2,330
Marble	1,188	2,043	1,140	2,710	2,824
Paving blocks	53	1,173	1,068	2,153	1,774
Rough stone	94,807	39,738	61,087	46,869	23,938
Ballast	341,997	321,877	344,857	214,495	196,630
Talc	1,715	1,715	2,124	2,375	2,128
Mineral fuels:					
Coke, gashouse	22,561	21,160	20,850	19,563	20,979
Gas, manufactured .... million cubic feet	1,123	1,059	1,059	NA	NA
Petroleum refinery products: [6]					
Gasoline ..... thousand 42-gallon barrels	2,477	2,328	2,385	2,273	2,372
Jet fuel .... do	121	88	107	119	134
Kerosine .... do	1,323	1,434	1,509	1,288	1,299
Distillate fuel oil .... do	1,739	1,998	2,330	2,106	2,290
Residual fuel oil .... do	4,474	4,130	4,367	4,907	4,945
Liquefied petroleum gas (LPG) .... do	83	53	183	74	60
Asphalt .... do	123	81	61	80	101
Other .... do	46	108	63	201	229

[e] Estimate. NA Not available.

[1] As reported by Revista Latinoamericana de Siderurgia (ILAFA), No. 76, August 1966.

[2] Variously reported as common clay or clay for cement; data probably do not represent total production of either category.

[3] As reported.

[4] Mostly agate, but probably includes some amethyst.

[5] As reported. Probably represents guano-phosphatized volcanic or other igneous rock.

[6] Data are derived from quarterly refinery reports and may not agree exactly with data adjusted on an annual basis.

Table 2.—Uruguay: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals: Iron pipe and fittings	3,244	1,852	All to Argentina.
Nonmetals:			
Cement: Asbestos	---	49	Paraguay 48.
Portland	24,694	36,698	Brazil 34,923.
Dolomite	13,937	4,800	All to Argentina.
Gem stones:			
Rough [1]	103	54	West Germany 25; United States 13.
Cut kilograms	1	---	
Sand, gravel, broken stone:			
Sand	748,571	---	
Gravel	92,896	---	
Stone, broken	81,020	151	Undisclosed.
Stone, dimension:			
Granite	1,236	2,301	Japan 782; Belgium-Luxembourg 484; France 443.
Marble	248	204	All to Argentina.
Talc, ground	---	10	All to Chile.
Mineral fuels: Liquefied petroleum gas (LPG)	5,374	503	All to Brazil.

[1] Variety unspecified, probably agate but may include some amethyst.

Source: Banco de la República Oriental del Uruguay, Departamento de Investigaciones Economicas. Exportaciones Cumplidas 1964 and 1965, Cuadro 10.

Table 3.—Uruguay: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals:		
Aluminum:		
Bauxite	1,008	500
Alumina	18	141
Hydrated alumina	---	800
Metal:		
Unwrought	2,014	405
Powder	86	13
Semimanufactures	29	2
Antimony:		
Oxide	2	3
Metal, unwrought	---	1
Arsenic, white	78	78
Chromium oxide	26	16
Copper: Metal, including alloys:		
Unwrought	168	26
Powder	3	2
Semimanufactures	1,043	170
Gold bullion troy ounces	12,892	3,240
Iron and steel:		
Oxides	166	136
Scrap	41	20
Powder	---	25
Ferroalloys	143	243
Pig iron and ingot steel	4,612	15,010
Semimanufactures:		
Bars, rods, angles, sections	6,720	7,163
Plates and sheets:		
Uncoated	19,547	14,215
Tinplate	7,264	4,569
Other	100	163
Hoop and strip	2,886	352
Rails and railway material	19	80
Wire	6,235	12,042
Tubes, pipes, fittings	3,901	123
Lead:		
Oxide	99	129
Metal, all forms	1,672	943
Manganese oxides	4	27
Mercury 76-pound flasks	27	2
Nickel	10	8

See footnotes at end of table.

Table 3.—Uruguay: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965
Metals—Continued		
Platinum and palladium troy ounces	15,542	192
Silver bullion [1] do	21,386	2,413
Tin:		
Unwrought long tons	51	46
Babbit metal	6	3
Titanium dioxide	555	396
Zinc:		
Oxide	14	7
Lithopone	458	287
Metal:		
Unwrought	1,413	690
Semimanufactures	135	57
Other metal, n.e.s.	300	78
Nonmetals:		
Abrasives	---	62
Alums	29	15
Asbestos	1,122	1,297
Barium compounds:		
Barite, natural	5	20
Barium sulfate, precipitated	45	37
Borates, including boric acid	198	125
Calcium carbide	156	---
Caustic potash	368	50
Caustic soda	3,663	2,723
Cement:		
Refractory	39	50
Special, not specified	41	---
Chalk	10	---
Clays:		
Bentonite	11	6
Kaolin	1,415	1,208
Other	180	133
Cryolite	22	2
Feldspar	3	6
Fertilizer materials:		
Nitrogenous:		
Sodium and potassium nitrates	1,143	26
Ammonium sulfate	13,599	5,388
Phosphates:		
Phosphate rock and Thomas slag, unground	42,361	33,430
Thomas slag, ground	---	2,000
Dicalcium phosphate	---	4,000
Other	2,174	4,549
Fluorite	108	50
Graphite	8	2
Gypsum	9,200	12,682
Infusorial earths	2,218	257
Mica and micanite	2	302
Refractory bricks and similar products	692	337
Salt	15,316	5,725
Soda ash	4,011	7,704
Sulfur	9,649	8,580
Talc	1	12
Mineral fuels:		
Asphalt	9	73
Carbon black	1,457	663
Coal	33,529	32,955
Coke	2,316	1,933
Petroleum:		
Crude thousand 42-gallon barrels	10,655	11,151
Refinery products:		
Gasoline do	63	144
Kerosine do	---	103
Distillate fuel oil do	25	166
Residual fuel oil do	137	1,152
Lubricants do	95	101
Other do	5	8

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[1] Minor recorded quantity omitted because of value discrepancy.

Note.—Quantity figures may be incomplete in some cases because source sometimes shows small additional import value only.

Source: Banco de la República Oriental del Uruguay, Departamento de Investigaciones Economicas. Importaciones Cumplidas 1964 and 1965, Cuadro 27.

Venezuela

Table 1.—Venezuela: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Gold troy ounces	28,774	26,947	33,536	23,660	18,872
Iron ore thousand tons	13,266	11,747	15,656	17,510	17,759
Iron and steel:					
Pig iron do	123	302	323	334	351
Steel ingots and castings do	225	364	440	1,085	522
Semimanufactures do	83	159	399	347	341
Nonmetals:					
Cement do	1,535	[r] 1,580	[r] 1,850	[r] 2,112	2,114
Diamond:					
Gem carats	93,971	38,400	57,467	[r] 52,313	41,796
Industrial do	75,857	27,597	48,816	[r] 28,767	31,229
Bort do	6,665	3,676	9,321	[r] 9,877	11,674
Total do	176,493	69,673	115,604	[r] 90,957	84,699
Gypsum:					
For cement manufacture [e]	52,900	54,500	66,300	78,500	75,000
For other uses	9,936	9,967	[e] 10,000	[e] 12,000	NA
Total [e]	63,000	64,467	76,300	90,500	NA
Lime	44,764	50,143	67,609	63,997	NA
Limestone:					
For cement [e]	1,963,000	2,028,000	2,462,000	2,655,000	2,750,000
For lime, agriculture and construction [e]	80,000	90,000	121,000	114,000	NA
Total [e]	2,043,000	2,118,000	2,583,000	2,769,000	NA
Phosphate rock	---	---	---	[e] 6,000	NA
Salt thousand tons	145	76	203	172	[e] 72
Mineral fuels:					
Coal, bituminous thousand tons	27	42	38	31	34
Carbon black	NA	4,536	6,123	6,804	NA
Gas, natural: [1]					
Usable production:					
Sold million cubic feet	76,207	83,933	87,049	100,876	108,210
Producers' fuel and losses do	117,409	125,432	130,909	143,122	147,674
Transformed into products do	20,638	20,825	19,458	20,004	23,040
Injected for repressuring do	511,470	607,122	598,219	661,311	689,475
Subtotal do	725,724	837,312	835,635	925,313	968,399
Flared do	629,029	560,882	551,146	599,060	571,958
Total do	1,354,753	1,398,194	1,386,781	1,524,373	1,540,357
Natural gas liquids:					
Natural gasoline thousand 42-gallon barrels	3,348	3,251	2,500	3,647	3,524
Liquid petroleum gas do	4,758	5,088	1,649	[e] 2,000	1,812
Total do	8,106	8,339	4,149	[e] 5,647	5,336
Petroleum:					
Crude do	1,167,916	1,185,511	1,241,782	1,267,602	1,230,464
Refinery products:					
Gasoline and naphthas do	48,578	50,795	45,014	[r] 47,428	50,662
Jet fuel do	(2)	(2)	13,678	15,805	20,451
Kerosine do	10,182	8,849	9,880	[r] 7,961	6,069
Distillate fuel oil:					
Diesel oil do	48,917	54,757	48,316	[r] 71,071	70,799
Gas oil do	26,238	24,857	29,392		
Residual fuel oil do	212,282	214,573	233,951	[r] 268,080	260,617
Lubricating oil do	4,054	4,402	4,638	[r] 3,721	3,746
Refinery gas, liquid equivalent thousand 42-gallon barrels	4,541	4,607	4,522	[r] 6,006	6,642
Asphalt do	6,727	5,275	5,443	[r] 5,171	4,948
Other do	13,755	12,663	5,786	[r] 3,528	4,946
Total do	375,274	380,778	400,620	428,771	428,880

[e] Estimate. [r] Revised. NA Not available.

[1] Converted at the rate of 1 cubic meter to 37.32 cubic feet.

[2] Not reported separately, included with other commodities apparently including gasoline, kerosine, and other.

Table 2.—Venezuela: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Iron and steel:			
Iron ore..........thousand tons..	14,893	17,006	Mainly to United States.
Cast iron........................	82,017	50	All to Colombia.
Steel ingots and equivalent primary forms.	36,565	60,880	Mainly to Argentina.
Seamless tubes..................	4,954	6,282	Mainly to United States.
Nonferrous base metals, unwrought and semimanufactures, not further described.	3,664	2,418	Do.
Nonmetals:			
Cement, white.......................	203,375	243,128	Peru 51,158; Netherlands Antilles 48,700; Martinique 33,672.
Diamond..........thousand carats..	170	5	All to United States.
Gypsum, crude......................	3,478	1,202	Mainly to Trinidad and Tobago.
Lime..................................	---	9	All to Netherlands Antilles.
Other nonmetals....................	---	20,900	Mainly to Brazil.
Mineral fuels:			
Gas, fuel, natural and manufactured:			
Liquefied petroleum gas thousand 42-gallon barrels..	4,271	1,802	Brazil 1,305; Argentina 391.
Petroleum:			
Crude...................do....	857,307	851,092	Netherlands Antilles 277,330; United States 204,049.
Refinery Products:			
Gasoline.............do....	12,429	[1] 22,063	United States 9,811; Netherlands Antilles 3,495.
Kerosine.............do....	14,489	1,247	Mainly to Netherlands Antilles.
Distillate fuel oil.....do....	49,128	45,327	Canada 12,206; United States 4,665.
Residual fuel oil......do....	231,140	244,049	United States 170,623; Canada 8,922.
Lubricants...........do....	1,660	2,979	NA.
Other................do....	72	17,176	United States 11,746; Brazil 2,015.
Bitumen.............do....	2,947	3,261	Mainly to United States.
Tar, mineral, and other crude chemicals for coal, petroleum, and natural gas distillation: Naphtha....do....	3,797	NA	

r Revised. [1] Includes naphtha.

Source: Direccíon General de Estadística y Censos Nacionales, Ministerio de Fomento. Boletin de Comerico Exterior, 1964 and 1965, Venezuela.

Table 3.—Venezuela: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Metals:			
Aluminum and alloys:			
Unwrought	2,003	2,968	United States 2,153; Italy 387.
Semimanufactures	6,234	4,762	United Kingdom 1,396; United States 1,043; Belgium-Luxembourg 1,028.
Antimony, all forms	14	21	Belgium-Luxembourg 8; United Kingdom 5; Canada 5.
Chromite	62	1,263	Mainly from United States.
Copper and alloys:			
Unwrought	118	127	Mainly from United States.
Semimanufactures	6,479	6,440	United States 1,922; Chile 1,711; Canada 1,244; Mexico 427.
Iron and steel:			
Iron ore and concentrate	1	---	
Scrap	7	5,874	Trinidad and Tobago 3,464; Guyana 2,387.
Pig iron	98	1,283	Mainly from United States.
Ferroalloys	4,022	9,082	Norway 2,742; United Kingdom 2,049; France 2,000.
Steel ingots and equivalent forms	1,023	2,007	West Germany 616; Belgium-Luxembourg 226; France 226.
Semimanufactures:			
Bars, rods, and structural sections.	78,975	97,053	Belgium-Luxembourg 55,459; West Germany 26,441.
Plates and sheets:			
Uncoated	110,076	145,142	Japan 75,286; Belgium-Luxembourg 17,906.
Coated:			
Trinidad	63,868	71,190	France 29,291; Japan 24,692.
Galvanized and other.	48,317	30,549	Japan 13,152; Belgium-Luxembourg 7,213.
Hoop and strip	1,137	902	United States 615; West Germany 182.
Wire	49,386	53,318	Belgium-Luxembourg 20,887; West Germany 14,642.
Pipes and fittings	132,177	96,068	United States 33,957; France 14,496.
Rails and accessories	1,414	1,634	Mainly from United States.
Various semimanufactures reported as plated with precious metals.	1,632	3,345	Belgium-Luxembourg 1,514; West Germany 944.
Other	1,262	2,171	United States 664; France 616.
Lead and alloys:			
Unwrought	2,717	1,693	United States 662; Mexico 563.
Semimanufactures	368	498	United States 148; West Germany 135.
Mercury 76-pound flasks	43	116	Italy 48; Mexico 39.
Nickel and alloys, all forms	53	94	United States 57; Canada 33.
Platinum-group metals and their alloys, unworked and semimanufactured troy ounces	12,603	3,697	West Germany 1,672; United States 1,350.
Silver and alloys:			
Unwrought do	72,275	88,672	West Germany 35,109; United States 24,692.
Semimanufactures do	108,284	185,445	United States 112,946; United Kingdom 40,928.
Tin and alloys:			
Unwrought long tons	58	125	United Kingdom 47; West Germany 45.
Semimanufactures do	149	67	Mainly from United Kingdom.
Zinc and alloys:			
Unwrought	3,060	4,072	United States 1,355; Japan 1,084.
Semimanufactures	788	1,087	Australia 260; Japan 208; Mexico 152.
Nonferrous metals, semimanufactures reported as plated with precious metals.	13	21	Belgium-Luxembourg 8; Canada 5.
Nonferrous metals, not otherwise described:			
Ores, concentrates, and scrap	8,051	1,324	Mainly from United States.
Metal and alloys:			
Unwrought	177	30	United States 13; Spain 7.
Semimanufactures, other	47	139	Mainly from Colombia.
Nonmetals:			
Abrasives	159	168	West Germany 103; Italy 47.
Asbestos, crude washed or ground	4,717	4,316	Canada 3,381; United States 554.
Barite	17,332	17,399	Brazil 5,868; Morocco 3,870; United States 3,837.
Borates	1,539	1,930	Belgium-Luxembourg 1,278; United Kingdom 486.

See footnotes at end of table.

Table 3.—Venezuela: Imports of mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources, 1965
Nonmetals—Continued			
Clays:			
Bentonite	4,613	3,746	Mainly from United States.
China clay (kaolin)	6,072	5,430	United States 4,490; United Kingdom 710.
Fire clay	5,898	4,853	United States 7,371; United Kingdom 335.
Cryolite	4	4	All from West Germany
Diamond, industrial [1] thousand carats	120	280	Mainly from United States.
Diatomaceous earth	2,644	1,990	Do.
Feldspar	7,990	7,953	United States 3,558; Canada 3,392.
Fertilizer materials:			
Nitrogenous	6,041	6,006	Mainly from West Germany.
Phosphatic	565	302	Belgium-Luxembourg 200; United States 101.
Potassic	12,956	24,885	Italy 13,700; France 6,098.
Mixed	20,003	12,569	West Germany 8,215; Netherlands 2,500.
Fluorspar	482	167	United Kingdom 91; Republic of South Africa 75.
Fuller's earth	558	928	United States 752; West Germany 113.
Graphite	187	299	Mainly from United States.
Gypsum, crude and calcined	84	83	Do.
Magnesite	817	2,180	United States 825; Netherlands 716.
Mica	298	384	Mainly from United States.
Refractory earths and rocks, not further described.	4,667	7,853	Do.
Sand	5,882	4,278	United States 3,254; Belgium-Luxembourg 1,008.
Stone, industrial, not further described	11,360	31,102	Mainly from United States.
Sulfur:			
Unrefined	22,019	33,159	Mainly from Canada.
Refined	721	701	United States 484; Belgium-Luxembourg 96.
Talc	2,777	3,001	Italy 1,260; United States 949.
Vermiculite	340	499	Mainly from United States.
Mineral fuels:			
Bitumen, natural	240	164	Mainly from United States.
Carbon black	889	885	United States 737; Canada 128.
Coal	705	10,089	United States 8,076; United Kingdom 1,944.
Coke	181,937	193,558	West Germany 104,296; United States 63,825.
Coal and coke briquets	68	69	Mainly from United States.
Petroleum:			
Refinery products:			
Gasoline, kerosine, and gas-diesel oil 42-gallon barrels	1,176	958	Netherlands 746; United States 102.
Gasoline additives	16,330	3,684	United States 2,874; United Kingdom 782.
Lubricants 42-gallon barrels	57,288	39,319	United States 27,200; United Kingdom 6,168.
Solvents do	9,880	9,399	United States 6,710; Netherlands Antilles 1,328.
Paraffin and wax	9,287	5,126	Mainly from United States.
Vaseline and other petroleum jellies.	870	1,110	Do.
Asphalt	2,474	1,542	Do.
Other	2,219	1,215	Do.

[1] Approximate, based on data reported in kilograms.

Source: Direccíon General de Estadística y Censos Nacionales, Ministerio de Fomento. Boletín de Comercio Exterior, 1964 and 1965, Venezuela.

North Viet-Nam

Table 1.—North Viet-Nam: Production of selected mineral commodities

(Metric tons)

Commodity [1]	1962	1963	1964 [e]	1965 [e]	1966 [e]
Metals:					
Chromite	32,600	30,300	30,000	30,000	30,000
Iron ore	---	---	NA	300,000	NA
Iron and steel	---	---	80,000	150,000	NA
Nonmetals:					
Apatite ... thousand tons	678	925	1,000	1,000	1,000
Cement ... do	462	[r] 491	649	750	750
Phosphate rock ... do	34	[e] 50	50	50	50
Salt ... do	144	[r] 128	150	[r] 150	150
Mineral fuels:					
Coal (mainly anthracite) ... do	3,468	[r] 3,347	[r] 3,400	[r] 3,500	3,500

[r] Revised. [e] Estimate. NA Not available.

[1] In addition to commodities listed, North Viet-Nam also produced gold, iron ore, pig iron, cast iron, steel, lead, tin, zinc, asbestos, clays, dolomite, glass sands, kaolin, mica, and pyrite and had begun or was about to begin producing antimony, copper, manganese, and mercury. Data on production of these commodities are not sufficient to establish reliable estimates.

South Viet-Nam

Table 1.—South Viet-Nam: Production of mineral commodities

Commodity	1962	1963	1964	1965	1966 [e]
Nonmetals:					
Cement ... thousand metric tons	---	---	75	198	135
Clays ... thousand cubic meters	27	35	[e] 120	[e] 100	100
Salt ... thousand metric tons	193	[r] 196	[r] 189	[r] 161	160
Silica sand ... thousand cubic meters	107	255	[e] 220	[e] 220	200
Mineral fuels:					
Coal, anthracite ... thousand metric tons	71	[r] 104	77	---	---
Fuel briquets ... do	[e] 55	55	55	[r] 50	30

[r] Revised. [e] Estimate.

Yemen

Table 1.—Yemen: Production of salt [1]

Year	Quantity (metric tons)
1962	150,000
1963	100,000
1964	35,000
1965	-----
1966	100,000

[1] Data on other mineral production, if any, are not available.

Yugoslavia

Table 1.—Yugoslavia: Production of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Aluminum:					
Bauxite ... thousand tons	1,332	1,285	1,293	1,574	1,887
Alumina	77,064	82,055	87,912	95,424	[e] 98,000
Ingots	27,980	35,895	34,763	41,318	42,022
Semimanufactures [1]	[r] 39,796	[r] 43,020	[r] 46,716	52,999	57,281
Antimony:					
Ore	116,654	123,327	124,965	127,044	117,296
Concentrate	7,064	7,671	7,511	7,602	[e] 7,500
Regulus	2,691	2,661	2,729	2,768	2,645
Arsenic concentrate	913	920	2,025	1,541	[e] 1,500
Bismuth, metal	91	88	84	88	103
Cadmium [e]	40	40	41	41	41
Copper:					
Ore ... thousand tons	5,070	5,629	5,928	6,003	5,624
Metal content of ore	51,717	62,094	63,184	62,551	62,222
Concentrate	221,471	261,208	287,305	270,785	[e] 275,000
Smelter	45,741	[r] 50,779	51,716	56,919	74,900
Electrolytic	45,520	49,032	51,941	56,354	62,920
Semimanufactures [2]	[r] 38,206	44,915	52,145	48,962	55,906
Chromium:					
Chromite	97,045	93,770	88,358	79,851	54,211
Chromite concentrate	44,088	56,176	52,591	46,990	[e] 34,000
Gold ... troy ounces	70,507	83,656	106,773	103,911	[e] 104,500
Iron and steel:					
Iron ore ... thousand tons	2,190	2,297	2,307	2,504	2,493
Pig iron ... do	1,050	996	1,026	1,115	1,143
Ferroalloys ... do	53	64	50	60	74
Steel ingots ... thousand tons	1,595	1,588	1,677	1,769	1,867
Rolled products [3] ... do	1,057	1,146	1,204	1,188	1,226
Lead:					
Lead-zinc ore ... thousand tons	2,239	2,287	2,364	2,358	2,439
Metal content of ore	101,995	[r] 113,884	113,105	113,105	106,482
Concentrate	132,804	135,804	134,398	126,444	[e] 127,000
Smelter	113,018	117,481	117,224	116,166	[e] 100,000
Refined	97,926	104,174	101,085	101,504	97,525
Rolled products	16,295	18,256	19,445	16,258	NA
Manganese ore	14,839	8,132	7,784	8,097	8,816
Mercury:					
Ore	192,083	198,089	242,699	264,086	[e] 270,000
Metal ... 76-pound flasks	16,273	15,838	17,318	16,419	15,896
Selenium ... kilograms	1,808	1,869	3,828	7,911	[e] 8,000
Silver ... thousand troy ounces	3,751	3,792	4,037	4,148	3,651
Tungsten, concentrate, gross weight	48	16	121	[e] 130	108
Zinc:					
Metal content of ore	61,114	[r] 88,285	[r] 91,801	91,819	87,200
Concentrate	118,889	126,960	132,711	132,977	140,000
Smelter	20,232	22,009	25,290	24,729	[e] 28,000
Electrolytic [4]	19,072	20,222	19,222	21,336	[e] 23,000
Rolled products	6,948	10,063	12,233	14,015	[e] 16,000
Nonmetals:					
Asbestos:					
Ore	253,774	253,407	264,780	230,724	[e] 200,000
Fiber	6,714	8,232	8,419	9,603	7,630
Barite, crude	103,763	104,486	101,670	97,110	[e] 100,000
Cement:					
Portland ... thousand tons	2,445	[r] 2,825	3,018	3,078	3,200
Other ... do	74	[r] 22	21	25	32
Gypsum:					
Raw	118,046	138,046	[r] 154,739	167,204	145,000
Calcined	30,553	39,330	44,314	40,260	[e] 41,000
Lime:					
Burned ... thousand tons	768	860	907	1,113	1,138
Hydrated	48,110	90,044	129,229	165,988	[e] 170,000
Feldspar, raw	[r] 32,085	[r] 29,885	[r] 33,794	55,935	65,500
Kaolin (China clay)	4,500	4,000	5,000	5,000	5,000
Mica ... kilograms	[r] 2,433	[r] 35,300	11,660	53,890	20,000

See footnotes at end of table.

Table 1.—Yugoslavia: Production of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Nonmetals—Continued					
Mineral fertilizers:					
Phosphatic	520,000	731,000	967,588	801,000	[e] 900,000
Others	400,000	347,000	421,300	461,000	[e] 500,000
Pyrites (concentrates, gross weight)	414,202	356,459	427,802	406,773	[e] 378,000
Refractories:					
Fire clay:					
Raw	144,707	210,346	232,354	245,080	[e] 250,000
Burned	33,937	39,393	43,520	46,590	[e] 47,000
Magnesite:					
Raw	373,362	411,959	497,420	525,941	526,685
Calcined	24,019	26,466	32,068	28,163	[e] 30,000
Sintered	131,626	155,016	177,933	195,880	[e] 200,000
Other [5]	193,509	215,645	254,129	281,161	NA
Salt:					
Sea	86,522	[r] 32,618	52,748	40,338	[e] 34,000
Brine	128,331	[r] 133,934	131,230	133,241	[e] 131,000
Other nonmetals	355,032	512,725	677,592	736,115	[e] 750,000
Mineral fuels:					
Coal:					
Bituminous thousand tons	1,188	1,286	[r] 1,262	1,169	1,150
Brown do	9,319	9,945	10,715	10,509	10,079
Lignite do	14,186	16,191	17,534	18,279	18,080
Briquets	3,244	[r] 15,899	3,963	22,667	[e] 25,000
Coke:					
Metallurgical thousand tons	1,030	1,009	1,089	1,153	[e] 1,227
Breeze do	77	81	70	100	[e] 100
Gaswork do	18	17	17	14	18
Manufactured gas million cubic feet	[r] 1,600	[r] 1,964	2,144	2,263	[e] 2,300
Natural gas do	3,557	[r] 7,131	10,224	12,317	15,014
Petroleum:					
Crude thousand tons	1,526	1,611	1,799	2,063	2,222
Refinery products:					
Gasoline do	321	344	385	546	[e] 788
Kerosine do	80	89	98	82	[e] 93
Diesel fuel do	532	618	701	890	1,200
Lubricants do	99	112	126	134	[e] 157
Heating oil do	492	480	683	1,148	[e] 1,765
Carbon black	3,735	[r] 4,281	4,907	5,099	[e] 6,000
Bitumen	113,834	119,816	150,850	112,000	[e] 100,000

NA Not Available. [r] Revised. [e] Estimate.

[1] Including aluminum alloys.

[2] Including copper alloys.

[3] Including pipes.

[4] Included with "smelter" zinc above in arriving at total smelter zinc listed for Yugoslavia in world production of smelter zinc.

[5] Includes shamotte, magnesite, chrome-magnesite, other refractory materials, and silica bricks.

Table 2.—Yugoslavia: Exports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Metals:			
Aluminum:			
Bauxite	1,079,691	1,162,107	West Germany 644,424; Italy 229,316; U.S.S.R. 123,795; East Germany 99,073; Czechoslovakia 48,841.
Alumina	13,919	11,602	Austria 8,113; U.S.S.R. 1,816; West Germany 866; East Germany 805.
Scrap and filings	---	2,422	Italy 2,237; West Germany 141.
Aluminum unwrought	30	1,180	Italy 1,080; Brazil 100.
Semimanufactured products	18,490	21,659	U.S.S.R. 6,593; United States 3,084; Czechoslovakia 2,266; India 1,846; East Germany 1,610.
Antimony:			
Antimony ore	284	---	
Antimony regulus	1,951	2,297	United States 1,584; West Germany 459; Netherlands 105.
Bismuth, unwrought	39	54	West Germany 23; Netherlands 16; United States 12.
Chrome:			
Ore	NA	1,192	All to Czechoslovakia.
Concentrates	23,885	12,460	Czechoslovakia 12,300.
Copper:			
Scrap and filings	341	589	All to Italy.
Alloys unwrought	91	25	All to Germany.
Semimanufactured products	22,193	18,366	U.S.S.R. 5,426; West Germany 4,087; United States 2,379; Iran 1,491.
Iron and steel:			
Iron ore	201,148	97,229	Hungary 97,031.
Scrap	7,779	10,095	Italy 7,061; West Germany 2,973.
Ferroalloys	20,973	25,825	Austria 5,343; West Germany 4,956; Italy 4,617; United Kingdom 3,409; Sweden 2,779; United States 1,518.
Steel ingots and billets	46	---	
Rolled products, excluding pipes	127,996	98,374	U.S.S.R. 25,847; Rumania 19,987; Italy 15,951; West Germany 11,013; Poland 5,414.
Pipes, all kinds	---	73,145	East Germany 26,299; West Germany 6,439; Czechoslovakia 5,918; Egypt 4,566; Italy 3,492.
Other semimanufactured products.	63,432	15,536	Poland 4,222; East Germany 1,708; Iran 1,363; West Germany 1,224; Czechoslovakia 1,183.
Lead:			
Refined	53,419	54,143	United States 28,172; U.S.S.R. 11,494; Poland 3,950; Austria 2,715.
Alloys	867	1,110	Austria 506; Italy 470; West Germany 109.
Cable lead	3,640	3,879	Austria 2,844; West Germany 1,014.
Semimanufactured products	5,049	2,967	Italy 2,723; Denmark 110.
Mercury, metal.....76-pound flasks	---	13,775	United States 5,249; U.S.S.R. 3,161; Switzerland 2,146; Poland 1,131.
Zinc:			
Concentrates	32,181	20,415	Poland 11,994; France 5,953; United Kingdom 2,212.
Electrolytic	3,113	2,873	Italy 1,628; United States 750; Austria 240.
Powder	1,572	1,915	Czechoslovakia 1,020; France 385; Austria 300.
Semimanufactured products	9,150	8,285	West Germany 3,911; Denmark 1,442; France 1,140; United States 867.
Nonmetals:			
Asbestos, fiber and flour	4,352	4,457	United States 4,272; Austria 85; Egypt 75.
Barites, raw and ground	72,875	62,613	U.S.S.R. 26,781; Hungary 13,775; United States 8,803.
Bentonite	17,636	14,230	Czechoslovakia 4,321; East Germany 4,130; Poland 2,649; Italy 2,124.
Cement:			
Portland	151,079	180,760	Ivory Coast 65,100 Libya 35,952; Malta 23,257; Ghana 13,891; Togo 13,000; Nigeria 8,500; Indonesia 5,800.
Other	81,292	58,307	Sudan 38,500; Italy 5,759; West Germany 3,118; United States 2,959; India 1,740; Czechoslovakia 1,500.
Feldspar	21,236	25,176	Poland 9,690; East Germany 8,185; Austria 3,564; Italy 2,250; Hungary 966; West Germany 334.

See footnotes at end of table.

Table 2.—Yugoslavia: Exports of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal destinations, 1965
Nonmetals—Continued			
Fertilizers, manufactured:			
Nitric	---	422	Greece 417.
Phosphatic	---	214,153	Bulgaria 135,260; Egypt 47,632; Austria 15,256; Greece 10,003; Albania 6,000.
Fire clay:			
Raw	5,035	3,812	Italy 3,797.
Calcined	376	5,099	Hungary 4,970.
Lime:			
Calcined	4,348	3,627	Libya 2,500; Italy 1,127.
Hydrated	20	1,550	Libya 1,500.
Magnesite:			
Raw	6,152	4,047	East Germany 1,768; Rumania 900; United Kingdom 898; Poland 265.
Calcined	25,172	21,847	Netherlands 8,226; Poland 6,175; West Germany 2,780; Rumania 1,869; United States 750; Italy 520.
Sintered	96,363	95,184	United States 28,643; Poland 19,062; Italy 12,840; United Kingdom 10,148; Ireland 9,052; West Germany 3,625; France 2,238.
Pyrites, concentrates	309,451	161,592	Czechoslovakia 94,915; West Germany 55,029; Austria 8,208.
Refractories:			
Shammot bricks, tiles and others	---	8,190	Czechoslovakia 5,619; Poland 1,081; Greece 750; India 292.
Dinas, bricks, tiles	---	10	All from Sweden.
Silica, bricks, tiles	---	96	Italy 41; West Germany 40; East Germany 15.
Magnesite, bricks, tiles	---	26,849	Rumania 10,420; West Germany 7,151; Sweden 1,377; Belgium-Luxembourg 973; Italy 847; France 665.
Chrome-Magnesite, bricks, tiles and others.	---	20,958	Rumania 5,454; Poland 5,073; West Germany 3,378; Italy 2,943; Sweden 1,463; France 1,428.
Other refractory bricks, tiles and others.	---	1,470	Italy 1,232.
Mineral fuels:			
Coal:			
Anthracite	80	---	
Bituminous	8,711	3,158	Greece 2,100; Austria 578.
Dust	103,014	82,326	Italy 80,740.
Brown	19,633	21,532	Austria 20,798; Italy 738.
Dust	320	---	
Lignite	---	23,509	Italy 20,837; Austria 2,672.
Petroleum:			
Crude	315,831	144,727	Austria 139,920; United States 3,196; United Kingdom 1,611.
Refined products:			
Gasoline	41,686	57,647	Austria 34,836; Poland 21,366.
Gas, oil and diesel fuel	1,762	39,426	West Germany 28,214; Netherland 9,625; Czechoslovakia 163; Hungary 147.
Jet fuel	---	9,790	U.S.S.R. 1,826; Czechoslovakia 1,636; United States 1,250; United Kingdom 883; Egypt 520; Sweden 490; Turkey 431; West Germany 371; Poland 352.
Heating oil	74,842	115,200	Austria 51,279; Israel 18,867; Greece 14,530; France 12,999; Italy 12,836; United Kingdom 3,102; United States 1,062.
Lubricants	45,974	52,726	India 49,541; Egypt 2,001.
Other products	348	2,984	Austria 2,831.

Table 3.—Yugoslavia: Imports of selected mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Metals:			
Aluminum:			
Bauxite	5,529	3,393	All from British Guiana.
Unwrought[1]	15,862	19,862	U.S.S.R. 12,667; United States 6,144.
Semimanufactured products	1,117	1,176	Austria 349; Italy 339; West Germany 220; United Kingdom 801; Israel 62; France 31.
Antimony ores and concentrates	NA	134	Turkey 134.
Chrome ore	59,977	54,719	Albania 37,770; Turkey 21,948.
Cobalt unwrought	50	25	Belgium-Luxembourg 25.
Copper:			
Blister	2,527	---	
Electrolytic	6,969	1,834	United Kingdom 1,085; Netherlands 538; United States 209.
Alloys unwrought	NA	4,444	United States 2,755; Chile 1,405.
Scrap and filings	3,140	11,456	All from the United States.
Semimanufactured products[1]	2,669	2,159	Italy 865; East Germany 418; West Germany 334; United Kingdom 167; Austria 46; France 40.
Iron and steel:			
Iron ore	381,269	363,909	India 332,804; Sudan 30,405; France 436; West Germany 262.
Scrap	120,474	99,062	United States 85,401; Tunisia 5,442; Saudia Arabia 4,494; Morocco 2,297; Lebanon 1,353.
Pig iron and cast iron	191,135	224,887	U.S.S.R. 149,672; Bulgaria 26,508; East Germany 23,197; Czechoslovakia 10,956.
Ferroalloys	1,471	1,998	U.S.S.R. 873; West Germany 372; United States 124; France 119; East Germany 104; Austria 94; Sweden 85; Italy 69.
Ingots and billets	16,236	45,717	Rumania 25,895; Czechoslovakia 15,575; Poland 3,812.
Rolled products—except pipes thousand tons	530,000	570,000	Czechoslovakia 101; U.S.S.R. 89; Italy 83; Poland 50; West Germany 37.
Pipes—all types	---	23,795	Italy 6,216; Hungary 6,024; West Germany 3,834; U.S.S.R. 1,366; Czechoslovakia 1,131.
Other semimanufactured products.	87,638	22,418	U.S.S.R. 6,129; West Germany 5,814; Italy 3,854; Czechoslovakia 1,256; Austria 1,799; Sweden 422; Belgium-Luxembourg 254.
Lead:			
Scrap	NA	2,650	United States 2,167.
Refined	1,570	317	Bulgaria 299.
Semimanufactures	NA	48	East Germany 34; West Germany 13.
Manganese:			
Ore	40,620	44,113	India 34,919; Morocco 5,000; Turkey 4,193.
Unwrought	99	76	United Kingdom 76.
Nickel:			
Unwrought and allowed	674	571	United States 258; Canada 112; United Kingdom 112; U.S.S.R. 79.
Semimanufactured products	98	160	Canada 89; West Germany 32; U.S.S.R. 21.
Rutile and titanium ores	NA	1,136	Australia 941; U.S.S.R. 100.
Tin:			
Unwrought long tons	1,395	1,118	Malaya 682; United Kingdom 251; Indonesia 152.
Semimanufactured products do	18	13	France 7; West Germany 4.
Tungsten concentrates	NA	58	Israel 44; United Kingdom 14.
Vanadium-Tantalum and Zirconium ores and concentrates.	NA	304	United Kingdom 118; Australia 106 West Germany 80.
Zinc:			
Smelter	1,318	226	Netherlands 126; Italy 50; United Kingdom 49.
Electrolytic	1,629	2,783	Bulgaria 1,375; Netherlands 689; Italy 366.
Semimanufactured products	180	141	West Germany 101.
Ores and concentrates of other unspecified nonferrous metals.	---	2,106	Italy 2,020.
Nonmetals:			
Abrasives, natural	NA	271	Denmark 179; Greece 56.
Asbestos	15,573	12,945	U.S.S.R. 8,596; Canada 2,474; Rhodesia 1,405; United Kingdom 152.

See footnotes at end of table.

Table 3.—Yugoslavia: Imports of selected mineral commodities—Continued

(Metric tons unless otherwise specified)

Commodity	1964	1965	Principal sources in 1965
Nonmetals—Continued			
Asphalt, natural	---	55	United States 47; Italy 6.
Bentonite	---	6	All from Austria.
Borates, natural	---	607	All from the United States.
Cement:			
Portland	481,002	563,171	Hungary 228,828; Rumania 167,376; Bulgaria 102,841; U.S.S.R. 42,784.
Others	55	106	West Germany 99; United Kingdom 3.
Chalk	155	167	Italy 64; United Kingdom 42; East Germany 40; France 11.
Cryolite, natural	363	NA	
Fertilizers:			
Natural phosphates raw	644,934	471,843	Tunisia 206,425; Jordan 167,282; Egypt 86,057.
Potash, raw	---	5,760	Italy 5,635; East Germany 134.
Natural sodium nitrate	28,375	3,500	All from Chile.
Manufactured:			
Nitric	---	253,189	Italy 116,730; Austria 66,389; Switzerland 61,364.
Phosphatic	---	9,190	Egypt 4,720; West Germany 4,500.
Potassic	---	202,638	U.S.S.R. 88,002; East Germany 69,966; Italy 24,151; Israel 13,605.
Mixed	---	13,890	All from Italy.
Fire clay:			
Raw	9,571	11,190	Czechoslovakia 8,545; Poland 2,333.
Burned	30,244	31,711	Czechoslovakia 20,286; Poland 11,122.
Fluorite natural	3,826	3,279	East Germany 1,956; Bulgaria 914; West Germany 200; Italy 120.
Fluorspar raw	209	204	All from East Germany.
Graphite:			
All kinds	1,078	1,047	Austria 562; West Germany 185; China 114; Czechoslovakia 72.
Kaoline	25,869	27,562	Czechoslovakia 18,238; East Germany 3,944.
Magnesite calcined	25	---	
Magnesite sintered	---	100	All from Czechoslovakia.
Mica ground	---	1	All from Bulgaria.
Refractory bricks:			
Shamotte	3,186	5,699	West Germany 3,021; Poland 1,387; France 539; Italy 374; Hungary 111.
Silica	407	774	West Germany 418; Poland 295.
Magnesite	---	7	All from France.
Others	1,001	2,329	West Germany 910; France 807; Poland 229; Japan 186.
Salt	105,927	161,782	Rumania 121,834; Tunisia 37,310; Egypt 2,400.
Sulfur	7,859	15,427	France 9,944; Greece, 4,000; U.S.S.R. 1,011.
Talc, natural	6,707	9,888	Bulgaria 6,865; Czechoslovakia 1,555; Rumania 1,122.
Mineral fuels:			
Coal:			
Anthracite	138,968	151,947	U.S.S.R. 151,875; Poland 72.
Bituminous:			
Coking	1,858,679	1,419,504	U.S.S.R. 902,769.
Other	---	555,037	All from Poland.
Gas	30,115	59,026	Czechoslovakia 41,524; Poland 17,501.
Forge	40	40	All from West Germany.
Coke:			
Metallurgical	191,609	85,654	Czechoslovakia 28,581; Poland 45,399.
Foundry	---	2,393	Czechoslovakia 1,823; Italy 567.
Petroleum coke	18,850	21,489	United States 19,453; West Germany 1,989.
Petroleum:			
Crude	760,250	1,107,004	U.S.S.R. 528,161; Iraq 432,994; Algeria 118,738; Venezuela 27,109.
Refined products:			
Gasoline	23,576	27,627	U.S.S.R. 22,678; United Kingdom 3,963.
Diesel oil	156,311	100,582	Rumania 81,072; U.S.S.R. 19,510.
Heating oil	106,150	36,477	Rumania 36,116; Bulgaria 361.
Lubricants	26,043	25,989	Rumania 13,171; Bulgaria 4,829; U.S.S.R. 3,579; United States 665.
Other products	30,807	41,515	Venezuela 24,687; Poland 4,462; U.S.S.R. 4,041; Rumania 3,858; East Germany 1,255; United States 1,026.

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[1] Including alloys.

Zambia

Table 1.—Zambia: Production of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1962	1963	1964	1965	1966
Metals:					
Cadmium kilograms	16,859	14,993	14,631	18,158	12,093
Cobalt:					
Metal	727	682	1,345	1,544	1,515
Other forms, cobalt content	136	24	63	---	(1)
Total	863	706	1,408	1,544	1,515
Copper:					
Mine	562,325	588,073	632,351	695,743	623,442
Smelter	546,400	[r] 577,003	[r] 643,533	685,104	595,524
Gold [2] troy ounces	5,326	4,960	5,033	5,196	[e] 5,000
Lead, refined	14,826	19,609	13,161	21,345	18,760
Manganese ore	57,545	[r] 34,914	[r] 36,370	30,813	26,702
Selenium [3] kilograms	32,410	[r] 20,848	[r] 55,200	[r] 26,115	[e] 26,000
Silver [4] troy ounces	943,932	[r] 846,317	[r] 1,445,934	848,819	[e] 750,000
Tin concentrate, tin content long tons	5	1	8	[r] 16	3
Vanadium, contained in V_2O_5	3	---	---	---	---
Zinc:					
Mine	40,900	38,200	47,000	47,350	63,600
Electrolytic	40,439	49,451	46,712	47,436	42,300
Nonmetals:					
Amethyst kilograms	12,664	15,443	6,714	21,254	NA
Cement thousand tons	[r] 119	116	[r] 151	[r] 221	[e] 220
Gypsum	---	---	---	---	1,075
Lime	NA	NA	NA	76,732	NA
Limestone	460,055	538,679	567,146	579,400	570,254
Mica, sheet	---	---	2	4	NA
Phyllite	16,376	13,026	11,268	19,281	21,530
Mineral fuels: Coal	---	---	---	---	114,127

[e] Estimate. [r] Revised.
[1] Less than ½ unit.
[2] Chiefly contained in electrolytic copper refinery muds and blister copper.
[3] Contained in electrolytic copper refinery muds and blister copper.
[4] Refined silver and silver contained in electrolytic copper refinery muds and blister copper.

Table 2.—Zambia: Exports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965 [1]	Principal destinations, 1965
Metals:			
Cadmium metal	13	14	Republic of South Africa 10; United States 4.
Cobalt:			
Anode slimes	119	---	
Copper-cobalt matte	1,460	NA	
Alloys	32	NA	
Metal	1,466	1,605	United Kingdom 1,518; Republic of South Africa 52; Australia 35.
Copper:			
Slimes	1,590	895	Japan 786; West Germany 109.
Metal, unwrought:			
Blister	153,600	171,139	United Kingdom 54,086; Japan 52,328; West Germany 48,135.
Electrolytic:			
Wire bar	464,925	538,900	United Kingdom 231,316; Italy 63,079; France 55,854; West Germany 52,856; Japan 36,667.
Cathode form	38,113	51,396	United Kingdom 18,866; Japan 12,610; West Germany 11,760.
Ingot and bar	25,077	4,080	United Kingdom 2,592; France 967; West Germany 178.
Brass and bronze	23	3	All to Congo (Kinshasa).
Iron and steel:			
Scrap	477	467	Tanzania 348; Republic of South Africa 119.
Semimanufactures:			
Castings	295	139	Ghana 134; Tanzania 5.
Pipes and tubes	124	---	
Lead, bar and ingot	13,389	15,648	Republic of South Africa 8,247; United Kingdom 4,267; Belgium 102.
Manganese, ore and concentrate	26,971	36,544	United States 8,033; France 7,878; West Germany 7,464; Netherlands 7,204.
Silver, unworked troy ounces	40,000	---	
Tin, ore and concentrate long tons	155	4	All to Southern Rhodesia.
Zinc, ingots and bars	45,875	45,163	Republic of South Africa 31,360; India 2,831; France 2,441; United Kingdom 2,127; Tanzania 1,626.
Old and scrap metal, not further identified.	1,940	2,077	All to Southern Rhodesia.
Nonmetals:			
Cement, for building, including hydraulic lime.	3,077	1,494	Southern Rhodesia 1,420.
Lime	424	818	South West Africa 523; Southern Rhodesia 181.
Marble, granite, and other stone	700	38	All to Southern Rhodesia.
Mica, block and sheet	3	(2)	
Salt	14	---	
Sand, stone, and gravel	16	1,669	Southern Rhodesia 1,659; Botswana 9.

NA Not available.

[1] Source: Annual Statement of External Trade, 1965; Central Statistical Office, Lusaka, Zambia, 1966, 236 pp.

[2] Less than ½ unit.

Table 3.—Zambia: Imports of mineral commodities

(Metric tons unless otherwise specified)

Commodity	1964	1965[1]		
			Sources	
			Republic of South Africa	Principal sources except Republic of South Africa
Metals:				
Aluminum semimanufactures	230	365	284	Southern Rhodesia 36; United Kingdom 14.
Chromium, ore and concentrates	401	318	86	Southern Rhodesia 231.
Copper and copper alloys, all forms	390	872	221	Rhodesia 428; United Kingdom 149.
Iron and steel:				
Iron ore and concentrates	19	43	All from Republic of South Africa	
Scrap	NA	520		All from Congo (Kinshasa).
Pig iron, sponge iron, and ferroalloys	2,908	8,250	1,302	Southern Rhodesia 6,946.
Ingots and other primary forms	33	38	7	Southern Rhodesia 29.
Semimanufactures	49,402	76,212	36,330	Southern Rhodesia 21,707; United Kingdom 5,547.
Lead and lead alloys	156	162	110	Southern Rhodesia 18; United Kingdom 9.
Tin and tin alloys ... long tons	40	52	9	Southern Rhodesia 41; United Kingdom 2.
Nonferrous ores and concentrates not further described.	211	9	5	Southern Rhodesia 4.
Nonferrous metal scrap	36	926	---	Congo (Kinshasa) 771; Southern Rhodesia 154.
Other old and scrap metal	308	1,568	784	Southern Rhodesia 744; United Kingdom 18.
Nonmetals:				
Abrasives:				
Grinding and polishing wheels	64	98	84	United Kingdom 9.
Industrial diamonds ... carats	144,323	9,857	5,348	Netherlands 4,509.
Other, crude	NA	5		All from United States.
Asbestos, crude, washed or ground	1,194	1,039		All from Southern Rhodesia.
Cement:				
Building, including hydraulic lime	5,260	16,737	---	Southern Rhodesia 7,537; Congo (Kinshasa) 7,258; Malawi 1,644.
Clinker	1,519	13,998	---	Southern Rhodesia 13,978.
Fire and furnace	1,359	1,862	1,479	Southern Rhodesia 204; United Kingdom 90.
Fertilizers	31,873	57,682	9	West Germany 19,200; Netherlands 5,482; Southern Rhodesia 3,776.
Gypsum and plaster of paris	7,739	10,526	10,047	Southern Rhodesia 449; United Kingdom 29.
Lime, building	2,654	884	642	Southern Rhodesia 203; Malawi 29.
Fire clay	2,255	1,267	264	Southern Rhodesia 649; United Kingdom 148.
Marble, granite, and other monumental stone.	76	213	113	Southern Rhodesia 57; Italy 43.
Mica, blocks or sheets	19	3		All from Southern Rhodesia.
Cornish stone, kaolin, and china clay	84	1,188	797	United Kingdom 301; United States 81.
Salt	10,294	10,892	6,794	Angola 1,398; Mozambique 1,377; United Kingdom 1,002.
Sulfur, crude	NA	5,067	---	France 2,721; Canada 2,335.
Explosives, industrial:				
Prepared explosives	10,329	NA		
Fuses	528	NA		
Detonators; number of ... millions	4	NA		
Mineral fuels:				
Solid fuels:				
Coal and briquettes	977,840	1,299,637	3,286	Southern Rhodesia 1,296,342.
Coke	65,749	67,343	---	All from Southern Rhodesia.
Liquid fuels:				
Gasoline ... thousand 42-gallon barrels	658	842	---	Southern Rhodesia 444; Iran 240; Bahrain 112; Saudi Arabia 46.
Kerosine ... do	88	112	---	Aden 41; Bahrein 35; Saudi Arabia 9.
Jet fuel ... do	17	37	2	Southern Rhodesia 30; Aden 5.
Distillate fuel oil ... do	382	504	---	Southern Rhodesia 354; Saudi Arabia 70; Iran 66.
Residual fuel oil ... do	6	15	---	Iran 10; Southern Rhodesia 4.
Lubricating oils ... do	45	72	64	United States 5.
Greases, jelly, waxes	1,148	1,636	419	United States 354; United Kingdom 30.
Asphalt and bitumen	50	5,427	1,470	Southern Rhodesia 3,738; United Kingdom 148.
Pitch, tar and coal products	NA	530	120	Southern Rhodesia 244; United States 82.
Other ... barrels	3,239	3,417	332	United Kingdom 2,496; United States 209.

NA Not available.

[1] Source: Annual Statement of External Trade, 1965; Central Statistical Office, Lusaka, Zambia, 1966, 236 pp.

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